

California and Western Medicine

Official Publication of the
CALIFORNIA MEDICAL ASSOCIATION

Accredited Representative of the
NEVADA STATE MEDICAL ASSOCIATION

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PRINTED AND EDITED

for the

California Medical Association

Under the direction of the House of Delegates and Council

GEORGE H. KRESS, M. D., *Editor*

VOLUME XXXVIII

JANUARY to JUNE, 1933

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Owned and Published Monthly by the California Medical Association

FOUR FIFTY SUTTER, ROOM 2004, SAN FRANCISCO

ACCREDITED REPRESENTATIVE OF THE CALIFORNIA AND NEVADA MEDICAL ASSOCIATIONS

VOLUME XXXVIII
NUMBER 1

JANUARY • 1933

50 CENTS A COPY
\$5.00 A YEAR

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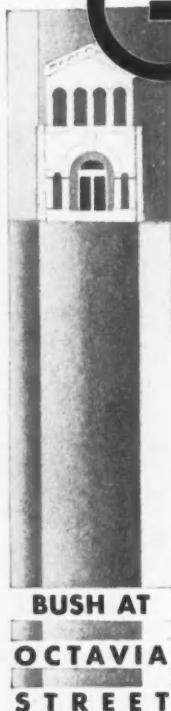
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ACCREDITED REPRESENTATIVE OF THE CALIFORNIA AND NEVADA MEDICAL ASSOCIATIONS

VOLUME XXXVIII

JANUARY, 1933

No. 1

THE FRIEDMAN TEST FOR PREGNANCY*

By LYLE G. MCNEILE, M. D.

AND

PHILIP A. REYNOLDS, M. D.

Los Angeles

DISCUSSION by Frederic M. Loomis, M. D., Oakland; Frank W. Lynch, M. D., San Francisco; H. A. Stephenson, M. D., San Francisco.

THE purpose of this paper is to set forth in simple form the fundamental facts concerning the Aschheim-Zondek test for pregnancy, and its modification by Friedman. The use of the test in the diagnosis and treatment of hydatid mole and chorio-epithelioma will also be briefly reviewed. The Friedman test is so simple and practical in technique and interpretation that it is being used by an increasingly large number of workers, many of whom are not especially trained in laboratory procedure. We will consider the various limiting factors and sources of error with their relative importance to the dependability of the test.

DIFFICULTIES IN DIAGNOSIS OF PREGNANCY

The diagnosis of pregnancy has always been a source of great embarrassment to every practitioner of medicine. Errors are frequent and are not limited to the tyro in diagnosis. To attain great skill in pelvic diagnosis thousands of cases must be examined, but few men have access to the clinics affording this invaluable training. The differentiation between pelvic tumors and the pregnant uterus, the amenorrheas of endocrine origin, irregularities in menstruation, the meno-pause, and pregnancies occurring before the re-establishment of menstruation after delivery, are only a few of the problems that often leave the obstetrician or gynecologist in either the position of making a diagnosis with a sense of extreme apprehension, or refusing to commit himself, falling back on the watchful waiting policy which may be disastrous in certain instances to the health or reputation of the patient, and in certain others to the reputation of the physician. Patients do not like doubtful diagnoses.

It is no wonder, therefore, that the introduction of a laboratory test for pregnancy has always

found an interested audience. The history of the various laboratory methods for the diagnosis of pregnancy and their failure as practical procedures is not within the scope of this paper. We are interested in the Aschheim-Zondek test and its modification by Friedman.

STUDIES BY ZONDEK, ASCHHEIM AND OTHERS

Zondek and Aschheim began a series of studies in 1925 which demonstrated the presence of the hormone of the anterior lobe of the pituitary body in the urine of pregnant women, and the fact that such urine when injected into sexually immature mice caused ovulation in the ovaries in about one hundred hours. This was one of the most important discoveries in recent endocrine investigation. Zondek¹ was able to state that "the anterior lobe of the pituitary and no other tissue of the body produces the hormone which sets in action the latent ovarian function, and thereby brings the infantile animal to sexual maturity." Evans² reported similar findings independently. Smith³ reported that the anterior lobe hormone is a non-specific sex hormone; that is, it acts upon the male or female generative organs, bringing about development in either case. It was further demonstrated by Aschheim and Zondek that the ovarian hormone, not the pituitary, when injected into immature animals does not produce any change in the ovaries but apparently only in the uterus and vagina. The conclusion, therefore, is that the anterior lobe hormone brings the ovarian or follicular apparatus into action, fires off the follicular ripening and mobilizes the secondary ovarian hormone in the follicular cells. The ovarian or follicular hormone then acts in a specific way on the uterus and vagina.

The first attempt to develop a biologic test for pregnancy based on the above work was the demonstration of the ovarian hormone in small quantities of urine; but after considerable effort it was concluded that this method was not suitable because the hormone cannot be demonstrated in one to two cubic centimeters of urine earlier than the eighth to tenth week of pregnancy, and then not always with certainty. Moreover, the ovarian hormone may occasionally be excreted in large quantities in nonpregnant women, particularly those with functional disturbances such as the meno-pause, certain amenorrheas, hyperthyroidism, and myxedema.

* Read before the Obstetrics and Gynecology Section of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

The blood of the pregnant woman shows a marked increase of both the pituitary and ovarian hormone. With the onset of pregnancy the rise of the ovarian hormone is gradual over a period of weeks. In contrast, the pituitary hormone rises rather acutely, a high level being reached a few days after conception. This remains high until the eighth month of pregnancy after which it gradually drops, reaching a normal level about the eighth day after delivery. This abrupt increase of the pituitary hormone, coupled with the fact that it reaches demonstrable amounts in the urine only in the presence of pregnancy, with two exceptions, hydatid mole and chorio-epithelioma, makes it the ideal hormone the determination of which makes possible an early and accurate diagnosis of pregnancy.

Let us summarize these important facts:

1. The hormone of the anterior lobe of the pituitary acts as the activating substance producing ovulation in the ovary.

2. The anterior lobe hormone reaches a high level in the blood, and is excreted in demonstrable quantities in the urine a few days following conception, the exact time as yet not having been determined.

3. The anterior lobe hormone is never excreted in the urine in demonstrable quantities in conditions other than pregnancy, hydatid mole, and chorio-epithelioma.

4. The ovarian hormone, not the pituitary, prepares the uterus for pregnancy, *i. e.*, produces hypertrophy and vascularization.

5. The ovarian hormone is excreted in the urine at a later period following conception, probably six to eight weeks.

6. It is present in the urine in demonstrable quantities in many other conditions, these conditions in several instances being the most important ones in which differential diagnosis of pregnancy occurs.

ASCHHEIM-ZONDEK TEST

The development of a practical method for determining the presence of the anterior lobe hormone was logically the next step, and the Aschheim-Zondek test was the result. A detailed account of the Aschheim-Zondek reaction will not be given. Suffice it to say that a positive Aschheim-Zondek test for pregnancy is based on the development of hemorrhagic follicles and corpora lutea in the ovaries of immature mice one hundred hours after the first of a series of six subcutaneous injections of urine.

The test has been used in almost every large clinic and by private laboratories all over the world. The statistics cover thousands of cases⁴ and there is an almost universally recorded percentage of accuracy of from 98 to 99 per cent. The sole variations from these uniformly excellent results, in the literature reviewed, are the reports of Mazer and Hoffman,⁵ White and Severance,⁶ and Bland, First and Roeder,²¹ reviewed later in this paper.

The Aschheim-Zondek test with mice, admirable though it is, has certain disadvantages. To use the test routinely it is necessary to be in a position to command a steady and dependable supply of immature mice of a definite age and weight. This means the maintenance of a large breeding colony of mice, numbering perhaps 5,000 to 10,000 animals, for, unless the demand for a given maturity of mouse be invariable, there is a constant loss from overmaturity. Mice are very susceptible to toxic substances in the urine, and the mortality is high. The interpretation of the results requires a magnifying glass for the examination of the ovaries and often requires serial sections. The test requires four to five days for completion although certain modifications involving the concentration of the urine have been proposed which may shorten the time factor considerably. The latter are still laboratory procedures not practical for the average worker.

FRIEDMAN'S MODIFICATION

To obviate these difficulties Friedman⁷ proposed a modification of the Aschheim-Zondek test based on the fundamental facts that:

1. The ovaries of an isolated immature female rabbit contain neither corpora lutea nor corpora hemorrhagica, as the rabbit does not ovulate spontaneously but only after coitus.

2. The urine of a pregnant woman contains some substance or substances which simulate in their biologic effects the anterior hormone of the pituitary.

3. The ovary of the rabbit quickly responds to the injection of these substances by the formation of corpora lutea and corpora hemorrhagica."

Friedman's technique as quoted from his article⁷ is as follows: "The materials and equipment necessary for the performance of the proposed test are: (a) an ordinary bed-pan specimen of urine, (b) a five cubic centimeter syringe, and (c) an unmated mature female rabbit. The urine is injected intravenously thrice daily for two days in four cubic centimeter doses. Forty-eight hours after the first injection the rabbit is killed. If the ovaries contain either corpora lutea or large bulging corpora hemorrhagica, the reaction is positive and the patient who furnished the sample is presumably pregnant. If the ovaries contain neither corpora lutea nor corpora hemorrhagica but only clear unruptured follicles, regardless of their size, the reaction is negative."

LATER MODIFICATIONS

The original technique of Friedman has been modified in various ways: (1) Variations in the dose of urine. (2) Single as opposed to multiple injections. (3) Various attitudes toward the care of the urine sample with reference to the maintenance of its potency. (4) Suitable age of the rabbits and the care of the animals, particularly as to isolation, and selection of dependable stock. (5) Autopsy as opposed to exploratory laparotomy. (6) The time factor between the first injection of urine and the final examination of the ovaries. (7) The interpretation of the result.

DOSAGE OF URINE

Friedman and Lapham used four cubic centimeters of urine injected thrice daily for two days, a total of twenty-four cubic centimeters. They are the only workers reporting three cases of toxic urine which repeatedly killed the animals. This large and repeated intravenous dosage may have been responsible, for in no other series was such a large dosage used. Dosage by other workers varies from a five cubic centimeter single dose used by Wilson and Corner⁸ to fifteen cubic centimeters used by MaGath and Randall⁹ in one injection; Reinhart and Scott¹⁰ at times also used fifteen cubic centimeters. The average dose seems to be seven to ten cubic centimeters in a single injection. The ten per cent error in a series by White and Severance⁶ is partly attributed to the single dosage method. Friedman, in a discussion of this series, so places the blame and calls attention to the quantitative factor present.⁶ "If one titrate the amount of this effective substance in the urine, he will find that in a seven months' pregnancy as little as one-sixteenth cubic centimeter of urine injected into a suitable rabbit in heat will give a positive response. If, however, one uses an adult animal, but an animal that is not in heat, many times that quantity will be necessary. In order to get an effective response of the urine of pregnancy with a minimal quantity, one must use a rabbit that is known to be in heat. One cannot tell from an external examination whether an animal is in heat." Therefore it is probably true that small amounts of urine if injected into one rabbit might give a positive, and into another, not in heat but apparently the same age and weight, might give a negative. For this reason Friedman uses large repeated doses. Reinhart and Scott¹⁰ inject five cubic centimeters and do an exploratory laparotomy at twenty-four hours. If the test is negative they close the animal and inject a second dose of five cubic centimeters and kill the rabbit at forty-eight hours. The twenty-four-hour reading is rarely changed. A morning specimen of urine is desirable because of the concentration of the hormone. The greater dilution of specimens taken during the day might be the source of a false negative reaction.

THE STABILITY OF THE HORMONE

The stability of the hormone is a factor about which no specific data are recorded in the literature to our knowledge. It seems a simple question to clear up, but the cost of animals is rather high, and it is not surprising that the number necessary for this research has apparently not been available. Opinions regarding stability vary in the literature. Friedman says that if the material is handled properly (*i. e.*, kept on ice), the potency of the active sample will not be materially impaired at the end of six days.⁷ MaGath and Randall⁹ recommend that the urine be used within an hour of voiding, or if this is not practical it should be placed on ice, and urine older than five hours should not be used. Wilson and Corner,⁸ who have done one of the most thorough and

painstaking pieces of work in this field, store the urine on ice, and state positively that it remains active for months. We have no well-founded opinion on this subject. We make it a rule to place the urine on ice as soon as possible after it is voided, and inject the rabbit within three to four hours. One false negative in our series occurred when circumstances caused one of us to carry the sample for six hours on an extremely hot day. An additional factor in this instance, however, was an underweight, stunted fourteen weeks old rabbit, rendered so by a deficiency diet consisting solely of barley. It is apparent that no absolute statement on this important point can be made until specific research has established the facts. Dr. G. D. Maner of the Brem, Zeiler, Hammack and Maner Laboratories has done several hundred Friedman tests, and from his experience with specimens mailed to the laboratory, believes that there is little loss of potency over a period of some weeks.

SELECTION AND CARE OF THE ANIMALS

The rabbit does not as a rule copulate or go into heat until the age of five months during the summer, and six to eight months during the winter.¹¹ Therefore a rabbit of ten weeks is only half-grown, and one of twelve to fourteen weeks is still six weeks from maturity even in the summer months. The use of an immature animal, therefore, involves a certain period of time following the injection during which the ovary is being brought to maturity, following which, ovulation, the typical reaction of the test, occurs. Rabbits ten weeks old or less are definitely unsuitable for the Friedman test. Gladys Dodds,¹² in her first twenty cases, used rabbits less than twelve weeks old with 30 per cent failure. Her second group of thirty-three cases, using rabbits twelve to twenty weeks old, gave 100 per cent correct results. Schneider's¹³ false negative occurred when for the first time six weeks old rabbits were used. Subsequent tests with twelve weeks old rabbits gave a correctly positive result. This fairly well establishes the fact that rabbits under twelve weeks old are not reliable and are apt to give false negatives. Rabbits at twelve weeks weigh four to five pounds.

Isolation Period.—An isolation period of at least three weeks for does who have been exposed to males is necessary to avoid false positives, for although pregnancy may not occur, the stimulation of attempted coitus may cause ovulation. At the end of three weeks, palpation will determine the presence or absence of pregnancy. Pseudo reactions may even occur from hopping of one doe by another. Therefore individual isolation of each doe is important.

METHOD OF EXAMINATION

Reinhart and Scott do an exploratory laparotomy at twenty-four hours, and if the test is positive they close the animal for future use; if negative, they close and reinject five cubic centimeters and reexamine at forty-eight hours. They rarely find a positive at the second examination. Fried-

man kills his rabbits, as do the majority of workers; for although this method is less economical it does not involve the outlay of time and trouble necessary for laparotomy. Rabbits eight weeks old cost seventy-five cents to one dollar, and does twelve weeks old cost \$1.75 to \$2, from reliable uniform stock. A rabbit is ordinarily marketed at about ten weeks, and if saved longer represents a loss to the breeder.

THE TIME FACTOR

The period of time between the first injection of urine and examination of the ovaries varies in different laboratories from sixteen to forty-eight hours. Friedman used a forty-eight-hour period. MaGath and Randall use thirty hours, Schneider twenty-four to thirty hours, White and Severance forty-eight hours. The average and most universally used period is twenty-four to thirty hours. However, the errors in this test, with a few exceptions, are false negatives, and the several reported instances of negatives at twenty-four hours being positive at forty-eight hours indicate that perhaps the percentage of error could be still further reduced by always waiting forty-eight hours for the final reading. For example, Davis and Walker¹⁴ opened a rabbit at twenty hours instead of the usual thirty hours and the reaction was negative. The rabbit died during the night, and on reexamination in the morning was positive. Using mature does one investigator¹⁵ opens the rabbit and sketches the ovary. The rabbit is then injected and reoperated upon eighteen to twenty-four hours later. In this way he can interpret actual changes in the ovary which have occurred as a result of the injection. He made hourly observations of the genitalia for a period of twenty-four hours. Hyperemia of the ovaries, tubes, and uterus occurred in three hours. A slight elevation of follicles occurred at the same time. This progressed until at the end of ten hours the picture of a positive test was present. Marked distention and coiling of the uterus appeared at six to seven hours.

Wilson and Corner⁸ in using the sixteen to twenty-hour period with a low percentage of error always used fully matured rabbits, thus eliminating the time mentioned above during which the immature ovary is being brought to maturity by the hormone. Schneider¹³ suggests that if there is a real necessity for rapid reading of the test, two rabbits may be injected, the first killed at twelve to sixteen hours, and, if positive, the second, of course, need not be sacrificed at the later period. This is a good idea. Urine concentration tests are being developed, and will probably soon be practical for use by the average worker, thus shortening the test safely.

INTERPRETATION OF THE TEST

In reading the test on immature virgin rabbits the specimens exhibited will show a striking difference between a negative and a positive. There is not available a description of a false positive caused by the sexual excitement created by

females placed together. Occasionally small rosy spots appear in large clear follicles. These are suggestive, but not positive. Probably these should be retested in cases of very early pregnancy. When mature rabbits are used repeatedly the picture is more confusing. Undoubtedly the use of virgin rabbits is the safest and most practical for the beginner.

The Friedman test has a dependability of about 98 per cent in a majority of reported series, 100 per cent in a few instances, and in two series only 73 per cent and 90 per cent. What are the factors that make for error?

FALSE POSITIVES

A hydatid mole or chorio-epithelioma will give a positive reaction which quantitatively may be ten to fifty times as strong as that given by pregnancy. The reaction persists as long as any of the live tissue of either growth remains in contact with the maternal circulation. False positives from other sources are rare, and when carefully studied are usually accounted for by breaks in the technique of rabbit isolation or by mixed urine specimens. What may be called a false positive occurs in the case of incomplete abortion with retention of live placental tissue in contact with the maternal circulation. Bland, First, and Roeder²¹ in their series reported 6.8 per cent false positives. "Especially," they say, "is this error likely to be encountered in women who are functionally sterile due to endocrine disturbances, or in women approaching the menopause. In these women a compensatory hypertrophy of the anterior hypophysis may produce an excessive quantity of hormone, which, finding its way into the urine, will render an incorrect positive." Pituitary hypertrophy following castration in the human being was noted by Tandler and Grosz, evidently an attempt to stimulate a poorly functioning ovary. Experimentally, Evans and Engle have shown that the hypophysis of gonadectomized animals possesses an activity five times greater than in the normal animal. This phase of the question of false positives is discussed in but one paper, a recent contribution. How important a factor of error it may be, apparently depends upon observations of future workers.

False Negatives.—False negatives are more frequent, and may be accounted for by the use of rabbits less than twelve weeks old or rabbits of uncertain or poor stock, insufficient dosage of urine, insufficient time between the first injection and final reading of the reaction. Missed abortions and ectopics may give negative reactions if the fetus is dead, and no live placental cells are in contact with the maternal circulation. It may be well to make an observation here regarding the collection of the specimen. Patients do queer things. We have all seen attempts at concealing pregnancy by patients who hope for operative procedures that may abort them. No report on a urine specimen should state that a certain patient is pregnant or not pregnant unless a responsible person has secured the specimen by catheterization.

SOME PERCENTAGE COMPARISONS

Considering the 10 per cent error in the series of White and Severance⁶ it is well to note that they had a like variation from the experience of other reliable men in the use of the Aschheim-Zondek test. They had one false negative on a patient thirty-two days past her period with no explanation to offer. The other errors were two negatives on ectopic pregnancies. No comment was made on the condition of the fetus or placental tissue at operation. They had one negative incomplete abortion with no laboratory work on placental tissue secured at time of curettage, if curettage was done.

Brouha¹⁶ did two hundred cases with 100 per cent results; Gladys Dodds¹² did twenty cases with six false negatives, an error of 30 per cent, using rabbits of one kilo and less than twelve weeks old. She followed this with a series of thirty-three cases, using rabbits twelve to twenty weeks old, with 100 per cent accuracy. She also changed the time factor from twenty-four to forty-eight hours on the second series.

Wilson and Corner⁸ report:

Sixteen patients tested during the puerperium, all negative within twenty-four to seventy-two hours. In only two was the reaction positive longer than forty-eight hours, probably from retained placental tissue.

Eighteen patients in the first month of pregnancy from the menstrual history and development of the uterus, none more than thirteen days over her period, and three not more than eight days, all positive, and correctly so.

Thirty patients, four to eight weeks pregnant, all positive.

Three patients, ten to thirteen days past their periods, negative at the first examination, but four to seven days later became positive.

One patient (the earliest known) menstruated July 4, 1930. She was operated upon for a large myomatous uterus. No suggestion of pregnancy from history or physical examination. Hysterectomy was done July 24, 1930, and upon opening the uterus a three weeks' ovum was discovered. A specimen of urine was obtained eight hours after operation and gave a positive reaction.

Concerning twenty-five abortions, Wilson and Corner report:

Four, two to three months, threatened abortions were positive.

Nineteen incomplete abortions: Of these, ten were positive, nine negative. All giving a positive reaction showed placental tissue still attached to the uterine wall when curetted, and microscopic examination showed it to be living tissue. All negatives showed only decidua or dead inactive placental tissue.

Two missed abortions gave positive tests early, and negative later. No fetal cells.

Two cases of women at term, each with a macerated fetus dead one month or over. Both were positive. As is usual in these cases, the placentas were not macerated, and living placental tissue was present.

Six cases of ectopic pregnancy with three positive, being acute cases with living tissue, and three negative having had symptoms of longer duration and no living tissue.

This report of Wilson and Corner, a remarkably thorough study, is the type of work that will advance our knowledge of the reaction.

Schneider used fifty test cases. Twenty were positive and confirmed, and thirty were negative.

Two negatives were later positive. Six weeks' rabbits were used for the first time on these two cases. Using twelve weeks' rabbits they were positive in twenty-four hours.

Dorn, Morse, and Sugarman,¹⁷ in San Francisco, did 150 cases, and had three false negatives, using the twenty-four-hour technique. Two were subsequently positive, and one aborted before retesting. This gives them an error of 2.5 per cent. A forty-eight-hour technique might have reduced this to zero.

Davis and Walker¹⁴ report one false negative at twenty-four hours, positive at forty-eight hours, and two false positives. These two tests were among the first done, and both rabbits were injected on the day they were brought to the laboratory, a bad break in technique.

In MaGath's and Randall's series of eighty-five cases, thirty-eight pregnancies were all positive, and forty-seven not pregnant were negative with one exception, another instance of a false positive. In this case there was a record of placing a young male in the same hutch with the doe used in the test.

Reinhart and Scott¹⁰ had two failures in 150 cases. One false negative was operated upon, and two days after operation was positive. There was a very strong probability of a wrong source of the specimen used. The second failure was negative at twenty-four hours, but the clinical findings were so suspicious that a second rabbit was used, and forty-eight hours later gave a positive.

REPORT ON SERIES OF AUTHORS' CASES

We hesitate to report our series of thirty-five cases. The number is small, and insufficient time has elapsed for an accurate check-up.

REPORT OF CASE

The first case was interpreted without our ever having seen a positive, and we regret to admit that we called it positive. A few days later we realized our error, and repeated the test, which was again negative. The patient, a former nurse, felt sure she was pregnant, and would never have consented to interference at that time. Not having gained confidence in the test, and because the uterus proceeded to enlarge at a rate consistent with pregnancy, the patient was watched for two months. No fetal heart sounds developed. At operation a malignant tumor of the left ovary, superimposed over the uterus in the midline, was removed. Two false negatives in very early pregnancy occurred. The first, because of clinical symptoms, was rechecked two days later with the same single injection twenty-four-hour technique, and was positive. This was the instance in which the specimen was carried for six hours on a hot day, the rabbit used being one stunted in growth by a deficiency diet of cereal only. The second false negative was done three days after the patient had missed her period. It was repeated in two days, but was apparently repeated too soon, for the second reaction was also negative. The ovaries, however, in both instances showed clear large follicles. Friedman specifically calls these negative. Another worker recommends that the presence of these large follicles be an indication for repeating the test with an interval of five to seven days. During the succeeding ten days the patient was treated as an endocrine case, receiving antuitrin and theelin. Pelvic examination then showed uterine enlargement, and softening, and a third test using two injections of urine and a forty-eight-hour period gave a strongly positive result.

The patient at once left us for an abortionist, and was cured. Of course no laboratory record is obtainable as to the presence or absence of pregnancy. As to the possibility of producing a false positive by the artificial introduction of the pituitary hormone, it is recorded in the literature that the transfusion of a patient with the blood of a pregnant donor will cause the recipient's urine to give a positive Friedman. Whether or not this patient was an instance of the artificial introduction of the hormone or was really pregnant we will never know. The case is reported to show the difficulty involved in obtaining reliable data.

HYDATID MOLE AND CHORIO-EPITHELIOMA

Only casual mention was made above of an extremely important function of the Friedman reaction, namely, its use in the diagnosis and prognosis of hydatidiform mole and chorio-epithelioma.

The urine of patients with hydatid mole or chorio-epithelioma gives a very strongly positive reaction. This excessive quantity of hormone was first noted by Zondek in April, 1929, and independently by Ehrhardt in November, 1929. In the case of a hydatid mole Ehrhardt found that one cubic centimeter of urine diluted 520 times gave a positive pregnancy reaction by the Aschheim-Zondek test, while a similar result was obtained in another case with one cubic centimeter of urine diluted 260 times. As the quantity of hormone in a liter of normal pregnancy urine is 10,000 mouse units, this means that in these two cases the hormone present was fifty-two and twenty-six times the normal, respectively. Therefore the quantitative determination of the anterior pituitary hormone in the urine may become of great importance in differentiating mole from pregnancy. This determination is probably best done by the Aschheim-Zondek test, using mice, as we have not yet determined a rabbit unit. Chorio-epithelioma gives a similar striking quantitative reaction.

After the expulsion of a hydatid mole the test may be used to check the subsequent clinical course. "The reaction may remain positive after hydatid mole as long as two months without evidence of chorio-epithelioma."¹⁸ Theoretically, once the reaction becomes negative after expulsion of the mole it should not again become positive. However, such a case is reported by F. J. Browne in October, 1931,¹⁹ and by Ehrhardt in 1930.²⁰ Repeated positive tests after the expulsion of the mole should, of course, be cause for keeping the patient under close observation for further evidence of developing chorio-epithelioma. Following the actual removal of a malignant chorio-epithelioma a continued positive reaction is evidence of metastasis, and reason for a grave prognosis.

CONCLUSIONS

The Friedman test has a high degree of accuracy of about 98 per cent which parallels that of the Aschheim-Zondek test, and exceeds that of other well-established laboratory tests such as the Wassermann reaction. This one to two per cent

of error may be still further reduced by the application of a more standardized technique developed by longer experience with the test.

It is as yet uncertain as to exactly how soon after conception the reaction becomes positive, probably not under three weeks. Early pregnancies, if negative, should be checked a second time seven to ten days later.

No positive data are available concerning the duration of urine potency, but the hormone is now considered far more stable than earlier workers thought.

The test determines the presence of live placental tissue or tissue of placental origin in contact with the maternal circulation. It may, therefore, give false negatives in the presence of missed abortions, incomplete abortions, or ectopic pregnancies with dead fetal tissue. The reaction might be positive in the case of a macerated fetus as the placenta in these cases frequently contains live tissue.

The test is strongly positive in the presence of hydatid mole and chorio-epithelioma, and quantitative Aschheim-Zondek tests become an important aid in the diagnosis, treatment, and prognosis of these important conditions.

Attention has recently been called to the fact that primary ovarian failure or castration of the human being may cause a compensatory anterior lobe hypertrophy which may throw an excess of anterior lobe hormone into the circulation, thus accounting for a certain number of false positive reactions.

The technique that we suggest is the use of a fresh specimen of urine, with two injections of seven cubic centimeters each on successive days, using a carefully controlled rabbit not under twelve weeks of age, killing the animal at forty-eight hours. If greater speed is needed, two rabbits should be injected, as suggested by Schneider, one killed early, and, if negative, the second at forty-eight hours. Great care should be exercised to avoid injecting the wrong specimen of urine. This might be important legally. A catheterized specimen procured by a responsible individual is desirable.

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DISCUSSION

FREDERIC M. LOOMIS, M. D. (350 Twenty-ninth Street, Oakland).—Hardly a day passes when we are not called upon for the diagnosis of pregnancy too early for anyone to be certain. Doctor McNeile touched a tender spot when he said patients do not like doubtful diagnoses. I have discovered the same thing, especially since times have been so difficult. We have all probably had the same experience lately in seeing patients who would ordinarily welcome their babies go to the abortionists, feeling that they cannot possibly go ahead, and accepting this unhappy way out of their difficulty with fear and bitter resentment. When early diagnosis is so insistently urged, we can often suspect the reason.

We use the Friedman test constantly, done for us by Dr. Gertrude Moore, and have come to place practically complete reliance upon it. We have had no errors in many months. So far as I can remember we have had but two errors in all, a false negative early in the development of the test and a false positive after several injections of theelin. At the present time Doctor Moore is using carefully isolated rabbits, separated from other females also, from three and one-half to five months old. These are injected with four cubic centimeters of urine three times on both the first and second days at three-hour intervals, and the animal is killed at about forty-eight hours. The positives and negatives are easily identified in practically every instance, the tedious sectioning often required in mice being unnecessary.

I hope that the quantitative test for the early recognition of hydatid may soon become reasonably certain. We all have patients in whom we suspect hydatids

and regret the wasted time when the diagnosis finally becomes clear; and at the same time we are sorely tempted at times to terminate suspected hydatids which finally prove to be normal pregnancies with a slight placental separation. We expect to follow our hydatids in the future with this test from time to time, though with a fairly long list of hydatids we have had no malignancy develop in the past fifteen years. Doctor Moore recently had a urine specimen produced two days after a hydatid was passed. This produced a clear positive, undiluted, and a clear negative when diluted ten times. In another patient the test was clearly positive, undiluted, after two weeks; this will be retested after another two weeks and if still positive it will be necessary to consider a strong possibility of malignancy.

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FRANK W. LYNCH, M. D. (University of California Hospital, San Francisco).—The essayists have presented in a very clear and convincing manner their brief for the Friedman test for pregnancy. There is no doubt of the value of the method. Refinements in technique have made it an accurate means of diagnosis not only of early normal pregnancies, but for differentiating other confusing conditions from them. Moreover, the animal is a nice animal with which to work. No one in their right mind would prefer to handle rats or mice were rabbits available and suitable for the work. Moreover, as the essayist clearly shows, the availability of rabbits that are properly isolated makes it unnecessary to keep on hand the perfect swarm of rats or mice in the laboratory which one must do if he plans to have at all times animals of proper age for the Aschheim-Zondek test.

In my clinic we use for the pregnancy test rabbits, mice or rats, and in uncertain cases may use all three. While there are very few errors in diagnosis by this means, there are some even though the test is accurate in more than 99 per cent of cases. From our present standpoint of knowledge, we may be justified in believing that some of the failures accredited in the past to the fault of the method may more properly be laid to the use by technicians of animals of improper age. The difference of even two or three days in age in a rat or mouse may cause an error in obtaining a proper Aschheim-Zondek reaction if the animals are used at the earliest or latest accepted age period for the test. Concentration methods of preparing the urinary specimen speed up the interval of time before a test can be made.

Equally important is the selection of rabbits of proper age for the test. Wilson and Corner in their most excellent study obtained their astonishing results with the use of mature rabbits that were properly isolated. The ovaries of two or two and a half months old rabbits may be too immature to respond to the stimulation of the hormones contained in the urine of pregnant women. In this connection it is of interest that Dorn and Sugarman, when working out their test for the determination of the sex in the unborn, found that a rabbit whose testicles were still in the abdominal cavity was too undeveloped to respond to the hormones in the urine of a woman carrying an unborn female child, whereas those with testicles in the process of descent and still within the inguinal canal did so respond.

The ages when rabbits go into heat, *i. e.*, give evidence of maturity, varies in different parts of the country under the influence of their breed, size, food, and climatic conditions. They are said to mature at four and a half months in the summer and in five months in the winter in the East, yet it is a fact that they mature at least two weeks earlier in this section of California. We also find that rabbits bred in the San Joaquin valley go into heat earlier than those bred in the coast counties near San Francisco.

The essayists stress the great value of the Friedman and Aschheim-Zondek test as a means of differential diagnosis when trophoblastic tissue is supposed to be present. Our observations confirm this statement.

We have used the test in several cases of hydatidiform mole, beginning shortly after Aschheim, in March, 1930, calling attention to the fact that the urine of patients with such complications gave a very much stronger Aschheim-Zondek reaction than did that from women with normal pregnancies. We have had several cases which corroborated this statement. Yet the clinician should remember that although the test usually becomes negative a comparatively short time after the extrusion of the mole, it may remain positive as long as two months thereafter without the presence of chorio-epithelioma. In one of our cases the reaction was negative nine days after the mole was removed from the uterus. Eberhardt, however, found it was positive with undiluted urine for thirty-six days in one of his patients, and in forty-two days in another. In November, 1930, the test proved consoling to us when treating a patient with hydatidiform mole who bled considerably for one month after removal of the tumor. Immediately after the operation the test was positive for mice with one-eighth of one cubic centimeters of urine in three days (Aschheim-Zondek technique) as opposed to the normal pregnancy reaction then obtained with one cubic centimeters of urine in four days. A month later we found two large ovarian cysts (lutein) in the abdomen that were not present at the time when we removed the tumor. Since the patient was bleeding, we curetted without finding syncytial elements, yet because she was forty years of age and had had several children, to be on the safe side we inserted a small dose of radium to spray completely the uterine cavity. Ten days later the Aschheim-Zondek test was negative both for mice and with the concentrated method for rats. In the light of present knowledge, we would not use radium in treating such a patient today.

Quite recently there has been in one of the University Medical School Hospital services a most perplexing case. In March the patient was delivered of a mole. Two weeks later the Friedman test for pregnancy was positive, using ten cubic centimeters of undiluted urine, and then on May 2, May 16, and on August 27 it was still positive, even when using ten cubic centimeters of urine diluted 1:50 and 1:100 times. This long continuation of a very strong pregnancy reaction, together with some bleeding, seemed to indicate the presence of a chorio-epithelioma. The woman consequently was curetted without such findings. Feeling that this reaction, continued for more than four months, demanded more careful investigation, the abdomen was opened without finding evidence of tumor. Two weeks, and three weeks thereafter the reaction was negative, using ten cubic centimeters of 1:100 solution of urine. While there is always the possibility that the curette may fail to give the diagnosis, even though the tumor may be present, as in the case reported by Browne, the negative Aschheim-Zondek reaction indicates that at present there is neither trophoblastic tissue nor tumor. At any rate, the woman seems well and is symptom-free. This case will be reported later in detail.

Within the last few weeks the Aschheim-Zondek reaction has aided us in diagnosing an ectopic pregnancy. This patient's July period came a few days early; then she bled normally from August 21 to 26, bleeding returning August 29 to September 2, without pain or distress. On September 6 she had several attacks of cramping pain which continued off and on for a couple of days but which was relieved by taking aspirin. In all, she had but four such crampy attacks which were later replaced by pain running down her thigh. She applied to my service on September 12, having a small right tubal mass. At this time an Aschheim-Zondek test was positive. We tentatively diagnosed an early tubal abortion which did not seem confirmed by the blood picture when she entered the hospital on September 18, when the red blood count was normal, the white blood cells were 7720, with 67 per cent of polymorphic leukocytes. The blood sedimentation time was three hours and twenty-minutes. Yet operation on the following day proved the tentative diagnosis was correct. The Aschheim-Zondek test

was positive on the day of operation, and seven days later, but was negative two weeks after operation. While the specimen presented grossly only as a tubal abortion, microscopic study disclosed several small areas of chorionic villi still firmly attached to the walls of the tube in a few places.

The use of this diagnostic aid suggests a wider field for application. The reaction, supposedly due to living chorionic villi, may be due only to the fetal epithelium as is suggested by Eberhardt's case of chorio-epithelioma in which only remote metastases were found without the uterine tumor. It well may be that the varying strengths of the test may prove useful in the event patients with normal pregnancy may have unduly large amounts of syncytial cells in the lung and liver which cause such symptoms as hyperemesis or other toxemias of pregnancy which at present remain as unsolved problems.

Doctor McNeile's paper is timely and presents a critical review of the literature which should be of interest to any advanced student in obstetrics.

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H. A. STEPHENSON, M. D. (490 Post Street, San Francisco).—Doctors McNeile and Reynolds have surely given us a complete résumé of the literature on this subject. Since it is becoming increasingly necessary to make a positive and early diagnosis of pregnancy we are coming more and more to rely on the Friedman test. We agree with Doctor McNeile that it would be much wiser to have the urine collected from the patient by a nurse so that we may be absolutely sure that the specimen is the proper one. We have not taken this precaution in the past, but shall do so in the future. We have had no experience with the technique of the test as we have depended upon reliable laboratories. Done in this way the test has been in our practice 100 per cent successful.

WASSERMANN-FAST SYPHILIS*

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DISCUSSION by Samuel Ayres, Jr., M. D., Los Angeles; Donald A. Charnock, M. D., Los Angeles; Hermann Schussler, Jr., M. D., San Francisco.

THE term "Wassermann-fast" is given to a case of syphilis that still shows a positive Wassermann reaction after having been treated over a period of three or more years by ordinary chemotherapeutic methods. This includes any combination of the arsphenamins, bismuth, mercury, and the iodids. For the purpose of this paper we will consider only those cases in whom all clinical manifestations of syphilis have been arrested, and we will also exclude cases of paresis.

SIGNIFICANCE OF THE WASSERMANN-FAST REACTION

Following our best interpretation of the Wassermann reaction we find it is supposed to be positive when certain enzymes are circulating in the blood. These enzymes result from the antigenic action of certain foreign lipid-protein mixtures or compounds, such as the bodies of dead spirochaetes. The spirochaete multiplies by simple fission and if its environmental conditions are favorable the spirochaete does not ever need to die. In conditions where no spirochaetes are being

* Read before the General Medicine Section of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

killed we would expect to find a negative Wassermann reaction. We do find such reactions in congenital syphilis during the first two months after birth and in malignant syphilis. In both these conditions the proliferation of the spirochaete is unabated. When death of some of the spirochaetes begins to take place the Wassermann reaction becomes positive. Although the actual mechanism of the Wassermann reaction is known to differ from the purely immunological reaction of a Widal test a positive Wassermann test does seem to mean that the parasites are still being killed within the body of the host. If spirochaetes are still being killed the host is still potentially a case of clinical syphilis. This leads us to the inference that we should never entirely cease some kind of antiluetic treatment in a patient with a persistently positive Wassermann reaction. The reaction is considered persistent if still positive in not less than six months after treatment has ceased.

Why does the chemotherapeutic program sometimes fail with the resultant production of the Wassermann-fast group? How does this group differ in clinical pathology from the easily cured group? It is commonly known that cases of syphilis exhibiting the typical skin lesions but rarely become cases of neurosyphilis or cases of Wassermann-fast syphilis, even with indifferent treatment. The occurrence of the efflorescence in some way apparently builds up a degree of resistance in the host that gives chemotherapy sufficient support to effect a complete eradication of all spirochaetes. Kyrle¹ made use of the resistance-building factor of the skin in Finger's clinic in Vienna by inoculating cases of Wassermann-fast cerebrospinal syphilis with fresh spirochaetes taken from chancre on other patients. Inoculations were made on the upper arm and a gumma produced. The production of even this skin lesion gave sufficient biological support to chemotherapy to render the blood and spinal fluid Wassermann negative and the lesion itself easily cleared up during the process. Later he tried, with some degree of success, to accomplish the same result with injections of a gelation called mirion.

WEAKNESS OF THE ARSPHENAMINS

The arsphenamins are excellent spirochaeticides, provided the spirochaetes can be exposed to their action. In early syphilis, when the disease is a blood-stream infection, the arsphenamins represent the machine-guns that with a sudden spurt mow down an enemy coming over the trenches. But after the enemy has dug in we have a different problem. The arsphenamins find themselves fixed or exhausted on some kinds of visceral tissue and especially on nerve tissue before reaching the spirochaete imbedded therein. Nerve tissue and spirochaete are both lipoids, and the arsphenamins are a series of lipoid dyes. This shielding action of some visceral tissues, especially nerve tissue, coupled with their lack of resistance-building factors, makes a good setting for the development of the Wassermann-fast case in cases where skin lesions were never present. Further efforts to improve the arsphenamins would seem futile; what

we need is an entirely different approach. Here we can use bismuth, the patient and persistent sniper that stays on the job hour after hour, every day in the month, ready to kill any of the enemy that stick their heads above the trenches. But what collateral measures can we use to substitute for skin lesions in getting the enemy out of the trenches?

NONSPECIFIC STIMULATION THERAPY

In casting about for some means with which to try to alter the Wassermann-fast patient's reaction we may first study the effect of malarial therapy on paresis. Paresis, we all know, with its strongly positive Wassermann on both the blood and spinal fluid, is most refractory to ordinary chemotherapeutic treatment. But after malarial inoculation, when properly combined with chemotherapy, a very large percentage of paretics show a negative fluid and a somewhat smaller percentage a negative blood reaction. The mechanism of malarial therapy has been studied and explained by Joseph Schumacher.² Inasmuch as this concerns our treatment of the Wassermann-fast case we will review it here. He demonstrated that the parenteral injection of lipoids stimulates the proliferation of lipolytic enzymes. Likewise the injection of foreign proteins produces proteolytic enzymes. The simultaneous but separate injection of these two antigens in the same animal body causes the formation of the two enzymes separately. Although these two enzymes may exist concurrently in the same patient they exhibit no lytic action on a lipoprotein. This requires a third member, the lipoproteolytic enzyme. But if the lipoid antigen and the protein antigen are simply mixed together before injection, the third enzyme is produced, namely, a lipoproteolytic enzyme. The enzyme is nonspecific biologically or as an immune body, but is very specific chemically; that is, the enzymes produced by injecting a mixture of lipoids and proteins derived from plants will show a lytic action on lipoproteins of animal origin. The body of the spirochaete, being a lipoprotein, stimulates the proliferation of these lipoproteolytic enzymes when it is killed within the body of the host. These enzymes have a lytic action on the syphilitic lesions including possibly some direct spirochaeticidal effect. In malarial therapy the disintegrating red blood cells plus the dead plasmodia following quinin furnish excellent antigenic lipoproteins. The enzymes resulting can permeate the visceral and nerve tissue and expose the imbedded spirochaetes to our chemotherapeutic drugs—besides having some direct effect of their own. But malarial therapy, assuming for the moment it to be the treatment for Wassermann-fast syphilis, is too inconvenient to be used in the ambulant office case of ordinary syphilis. The analysis of its action, however, suggests that the parenteral injection of a lipoprotein might give an equivalent result not only for paresis but for Wassermann-fast cases.³ Hardesty applied Schumacher's conclusions to the treatment of seventy-five luetics in all stages. His lipoprotein injection was made up from the antigen used in the Wassermann test

plus milk. Although clinical results were excellent, owing to his use of a Wassermann antigen, his cases showed a slow return to negative. However, it is not necessary to combine a Wassermann antigen with milk, as milk alone offers a convenient, easily obtainable lipoprotein. Many references to its use have been accumulating since 1917. It has been given a position but slightly inferior to malarial treatment by numerous investigators. In 1927, I¹ reported its use in my experience and since then have found it to be very effective in prophylaxis and treatment of Wassermann-fast cases. A point to remember is that the injection of the milk itself is sufficient frequently to cause a positive Wassermann reaction, so one does not expect a negative reaction until six months have elapsed after the last injection. Boiled skimmed milk is used, intramuscular injections of 2, 4, 6, and 8 milligrams successively, being given at weekly intervals while administering some salt of bismuth to a total of 2.0 gram. Since the Wassermann-fast case has already been very well treated with the arsphenamin series, I believe the more continuous action of bismuth better suited to treatment of such a case. In early syphilis, intramuscular injections of milk (total of four to six doses) are given during the first course of bismuth. In late cases milk and bismuth alone are used. If necessary such a course of twelve injections of bismuth and four injections of milk may be repeated after a year. This form of therapy has been very successful in my experience in cases where there has been no question of paresis.

REPORT OF CASE

A surgeon referred to me his sister-in-law on whom he had operated for uterine fibroids. Failure of the wound to heal properly led him to have a blood Wassermann test made. This was four plus. Then it was discovered that the patient's divorced husband had contracted syphilis while still living with her. The surgeon found no other evidence of lues in the patient besides the failure of the wound to heal and the positive Wassermann test. He at once instituted the most vigorous treatment, using 0.9 gram dosages of neoarsphenamin in courses of twelve weekly injections with alternating courses of mercury rubs. After three years of such treatment, with practically no rest periods, the patient still had a four plus blood Wassermann but a negative spinal fluid reaction. A rest period of twelve months was advised and the blood Wassermann was still four plus. Six weekly injections of 0.2 gram bismuth salicylate were given, and with the first four injections 2, 4, 6, and 8 milligrams of aolan were given in the opposite buttock. Six months after the last injection of bismuth the blood Wassermann reaction was negative. The course will be repeated after another rest period of twelve months.

CONCLUSIONS

1. The persistently positive Wassermann reaction means potential recurrence of clinical syphilis.
2. Treatment should not be stopped altogether on Wassermann-fast syphilis.
3. A program of treatment is suggested, employing nonspecific stimulation therapy in conjunction with administration of bismuth.

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DISCUSSION

SAMUEL AYRES, JR., M. D. (2007 Wilshire Boulevard, Los Angeles)—If the question were asked whether it was more important to treat a case of clinically active syphilis showing a negative Wassermann, which not infrequently occurs late in the disease, or a case of clinically inactive syphilis with a persistently positive Wassermann, I think all would agree that the former was more deserving of treatment. Again, might it not be preferable to live twenty-five years longer with clinically negative Wassermann-fast syphilis than to die twenty years sooner from an over dosage of medication in an effort to render the blood negative.

The essayist has assumed a highly commendable attitude of conservatism in handling this dilemma. Until our knowledge of biochemistry is greater than it is now, we must assume that a persistently positive Wassermann reaction is a potential source of danger. On the other hand, it would seem unreasonable to run the risk of shortening one's life by excessively vigorous chemotherapy on top of an ordinarily adequate amount of treatment.

Nonspecific therapy seems to offer a choice which is often effective without being drastic. In addition to the milk injections which have been mentioned, another procedure was suggested by Wernick¹ and later by Beinhauer and Jacob,² namely, the intravenous injections of sodium thiosulphate. The mode of action of this drug in Wassermann-fast syphilis is not definitely known. In cases of metallic poisoning, such as arsenic poisoning, it is thought to be effective by combining with the metal which has formed an insoluble compound with tissue proteins, producing a new soluble compound which then can be excreted in the urine. Many observations in cases of arsenic poisoning where an increased arsenic excretion follows the injection of sodium thiosulphate would tend to substantiate this hypothesis. It is conceivable then that the action of sodium thiosulphate in Wassermann-fast syphilis might be due to the formation of therapeutically active soluble compounds with metals which had been stored in the tissues in an unavailable form. On the other hand, its action may be more in the nature of a non-specific effect.

One patient may be cited in whom the administration of sodium thiosulphate marked the turning point in a persistently positive Wassermann. It is, of course, impossible to say whether the change was a matter of cause and effect or merely coincidence. Mr. P., age about forty-five, was first seen with symptoms of early tabes dorsalis: diplopia, Argyl-Robertson pupils, absent knee-jerks, and genital impotence. The blood Wassermann reaction was four plus. In spite of prolonged treatment with alternating courses of neoarsphenamin, mercury, various types of bismuth, iodids, and triparsamid, the Wassermann remained persistently positive for six years, giving four-plus reactions except on three occasions, when it gave a three-plus reaction. The last test before beginning sodium thio-

¹ Wernick, R.: *Hyposulphite of Soda in the Treatment of Mercury and Arsenic-Fast Syphilis*, *Am. J. Syph.*, 9: 563 (July), 1925.

² Beinhauer, L. G., and Jacob, F. M.: *Sodium Thiosulphate in Wassermann-Fast Syphilis*, *Am. Jour. Syph.*, 12: 61 (Jan.), 1928.

sulphate was four plus. Eight intravenous injections of sodium thiosulphate were given on an average of a week apart, most of the injections being of one gram. No blood test was taken immediately at the conclusion of these injections and the patient was not seen again for five months. At this time a Wassermann performed in the same laboratory as the preceding tests was only two plus. The patient did not report again for a year. At this time a Wassermann was not taken, and although he was feeling in excellent condition, he was given ten injections of bismuth, but another blood test was not taken for another nine months, at which time it was only one plus. Since then the patient has been on conservative treatment, consisting of a course of ten injections of bismuth each year. During this time all blood tests have been negative except once three years ago, when a single four-plus reaction was obtained.

In other words, for over six years prior to a series of injections of sodium thiosulphate, the Wassermann test was either three or four plus in spite of vigorous treatment of various types; after the injections of sodium thiosulphate for a like period of six years the blood tests have all been negative except for one two-plus, one one-plus, and one four-plus reaction. A spinal puncture two years ago was also negative.

This case is apparently corroborative of the results obtained by Beinhauer and Jacob in a series of thirty-eight cases of Wassermann-fast syphilitic cases. Eighty-five per cent were serologically improved after a course of sodium thiosulphate intravenously, and thirty-five per cent of the cases became Wassermann-negative and remained so for periods of more than one year without any further antiluetic treatment.

It would seem that the various methods of non-specific therapy deserve serious consideration in the handling of Wassermann-fast cases. On the other hand, it does not mean that the problem is necessarily finished as soon as the Wassermann reaction becomes negative in these cases. Short courses of specific therapy, such as bismuth, given about once a year might be considered as good life insurance.

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DONALD A. CHARNOCK, M. D. (523 West Sixth Street, Los Angeles).—The Wassermann-fast patient presents an important problem. We are still in doubt as to the mechanism of the shift from the normal in the complement-fixation test. Some observers hold that such persistent reactions are an inherent property of the serum and in no way indicate a syphilitic focus (Kilduff: *Clinical Interpretation of Blood Examinations*, L. and F., 1931). Other equally sincere investigators emphasize that necropsy shows such cases to have a high percentage of cardiovascular, neurological or visceral lesions (Fordyce, *Am. J. Med. Sci.*, Vol. 166, p. 3, 1923, and Stokes and Burman, *Am. J. Med. Sci.*, Vol. 160, p. 584, 1920).

While we are philosophizing about this problem we too often forget the patient. We have taught him that a positive Wassermann means syphilis. He is not greatly impressed by our academic discussion when he knows that his blood is still "two plus." Whatever may be our feeling about his case it is our duty to use whatever means we have available to control what is potentially an active infection.

The rôle of the nonspecific agent seems to be that of a catalyst which increases the potency of the spirocheteicide. In this way a response is obtained which often reduces the serum reaction to a negative phase.

At the suggestion of Doctor Hollingsworth we have for several months been using the nonspecific milk injections. Aolin has been used for convenience. This has been given in conjunction with active treatment.

While it is yet too early to quote statistics we have already had one very stubborn Wassermann-fast case show a negative reaction.

In using this method it should be understood that the milk injections are not being used as a form of

"protein shock" treatment. The introduction of the milk increases the lipoprotein content of the individual's blood and thus stimulates the lipoproteolytic enzyme.

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HERMANN SCHUSSLER, JR., M. D. (384 Post Street, San Francisco).—The problem of the clinically latent case of syphilis, with persistently positive serology, has been a challenge to syphilologists ever since the introduction of the Wassermann test. Hypotheses as to the significance of Wassermann-fastness have ranged from Wile's conception of a "scar" persisting after actual cure, to the belief that hidden active lesions are always present. Certainly there are many patients who carry a positive Wassermann for the remainder of their long lives without a clinical relapse, and others who succumb rapidly to injudicious therapeutic attempts to reverse their apparently harmless positive readings. On the other hand, the disquieting frequency with which we find visceral syphilitic lesions at autopsy in clinically latent Wassermann-fast patients, makes us wonder how many of these would have developed clinical aortitis or hepatitis if they had lived longer. It is assumed for the purpose of this discussion that patients with positive spinal fluids are classified as cases of "asymptomatic neurosyphilis" rather than Wassermann-fastness, and that all clinical evidence of syphilis is absent.

Many methods have been suggested for rendering the fixed positive Wassermann negative. A partial list of these would include: (1) nonspecific protein therapy; (2) lipoprotein therapy with bismuth (Hollingsworth); (3) sodium thiosulphate, with or without subsequent specific treatment; (4) silver salvarsan or old arsphenamin when neosalvarsan has been used; (5) bismuth when mercury has been used, and vice versa; (6) colloidal mercury sulphid; (7) giving mercuric chlorid and other mercurials intravenously; (8) intravenous sodium iodid injections; (9) radical removal of focal infections; (10) correction of functional disturbances, such as hypothyroidism or achylia gastrica.

In every one of these procedures there are a certain number of successes to its credit, as shown by the statistics of its proponents, but none of them is effective in all cases. Hence it is often necessary to try several in succession, giving each a fair trial before abandoning it. The simplest and least dangerous should of course be used first. Sodium thiosulphate is more likely to succeed in patients who are saturated with heavy metals, so that a minute additional dose of mercury or bismuth will precipitate a stomatitis. Here a course of twenty doses of one gram of the freshly dissolved crystals in ampoules, given twice a week, will purge the body of its deadweight of inert heavy metal. After a suitable rest period, one may then start afresh.

I have had no experience with Doctor Hollingsworth's technique, and would like to ask him whether he prefers milk to aolan or ommadin, and whether there is any objection to a longer course than six injections, or to the use of full doses from the start.

I feel that focal infections often tend to keep a Wassermann test positive, and that their removal is often followed by serological reversal without other treatment. It must always be remembered, however, that a fixed positive sometimes becomes negative after a year or two of complete rest from all treatment. Recently I have been using colloidal mercury sulphid in these cases, giving two or three cubic centimeters twice a week for six months, with occasional brief rests, as advocated by Wilhelm Gennerich of Kiel. The Wassermann response has been quite favorable, and the intramuscular injections are painless and well borne. Dr. M. J. Freeman has given over sixty thousand injections in the Chicago Board of Health clinic, and writes me that he has obtained 25 per cent of permanent serological reversals in Wassermann-fast cases. Perhaps this preparation might be even more effective than bismuth salicylate when milk injections are used.

In closing, a few philosophical comments may be in order. Why are we so anxious to reverse a fixed positive Wassermann? Is it to satisfy the patient, or do we ourselves feel a haunting twinge of conscience in the matter? If a brief course of the new procedure accomplishes the reversal (*e. g.*, a few doses of milk and bismuth, or of sodium thiosulphate, or of colloidal HgS.), can we seriously maintain that the underlying visceral lesion, which we assume to be present and responsible, has *thereby* been permanently extinguished? When a modern syphilologist finds, in the treatment of an early secondary case, that the Wassermann has become persistently negative after the first course, he does not stop treatment and congratulate the patient on his good fortune, but silently proceeds without rest periods for at least another year. Nor does he shorten the treatment of a tertiary ulcer or a visceral lesion because the patient has never shown a positive Wassermann while under observation. Most of us would do well to reflect occasionally on Hans Lisser's succinct observation, "A negative Wassermann test means exactly nothing." In our frantic attempts to obtain this result in a clinically cured patient, are we not often pursuing a will-o'-the wisp?

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Doctor HOLLINGSWORTH (Closing).—Although I fully appreciate the question raised whether we are treating a patient or his laboratory report, I do believe for the reasons I stated that a patient is not cured but still needs treatment if his Wassermann or Kahn test is persistently positive.

I am very pleased to hear Doctors Ayres, Charnock, and Schussler agreeing with my statement that what the Wassermann-fast patient needs is *different*, rather than simply *more* treatment. Changing the type of arsenamin has given me no satisfaction. In fact I am almost beginning to believe the importance of the arsenamin in the treatment of late syphilis has been greatly exaggerated. I am unable to discuss sodium thiosulphate because of no experience. We practically always limit the number of lipoprotein injections to four because we fear the production of anaphylaxis, and four seems adequate. Aolan produces less local reaction and has been preferred lately in office practice. We had but one reaction from milk in five years in two large clinics, then had two the same day and a third within the same week. Subsequent investigation led me to believe they were injected into a blood vessel. All four reactions occurred within two minutes after the second injection before the patient could get out of the treatment room and, though severe, very readily responded to adrenalin, ephedrin, and atropin.

PEPTIC ULCER—ITS CLINICAL ASPECTS*

REPORT OF CASES

By F. A. SPEIK, M. D.

Los Angeles

DISCUSSION by Franklin R. Nuzum, M. D., Santa Barbara; Fred H. Kruse, M. D., San Francisco; Grant H. Lanphere, M. D., Los Angeles.

SIPPY stated that peptic ulcer was one of the most common diseases of a serious nature that the medical man is called upon to treat. The Mayos' pathologic and surgical statistics show that ulcer is common to 12 per cent of the race. In a city the size of Pasadena there may be 8,400 ulcer cases. Many go untreated, some heal without treatment, and many do not heal with treatment. More

* Read before the joint meeting of the Radiology and General Medicine sections of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

would heal better and more permanently if the digestively upset patient would present himself earlier for examination. If people would pay more attention to their insides and less to their outsides, many more ulcers would be found and cured and many cancers discovered earlier.

COMMENTS ON ETIOLOGY, SYMPTOMS, AND TREATMENT

Although the etiology of ulcer is unknown (Alvarez) we must respect the probable causes, such as foci of infection of the nasal accessory sinuses, and teeth; arteriosclerosis, trauma, allergy, mechanical irritation, nervous worry, unhappiness, syphilis, and other systemic infections. Where any of these etiologic factors exist, they should be removed at once. Also search should be made for pathology in the portal lymphatic system, as a source of the cause of ulcer, and if any such be present it should be removed.

The symptoms of peptic ulcer are well known. These vary according to the type, location, age of the ulcer, and the complications that may be present. The clinical symptoms of ulcer may be masked by the associated pathology that may be present.

Properly to treat peptic ulcer, due consideration must be given to these varying symptoms and possible associated pathology. The complications which demand surgery are: perforation, perigastric adhesions, perigastric abscess, hour-glass stomach, obstruction of high grade due to scar-tissue formation, suspicious possible malignant degeneration. Simple ulcers without complications, and those with such complications as obstruction due to spasm, inflammatory swelling and edema, and the vast majority of the cases of hemorrhage, should be treated medically. Penetrating ulcers of the lesser curvature and duodenum yield readily to proper medical treatment. (See Figs. 1, 2, and 3.)

A knowledge of the possibilities and probabilities calls for a complete history, thorough physical examination, and the proper laboratory tests. With this evidence at hand, it is then necessary to have the patient radiographed. The x-ray will not only aid in telling whether or not an ulcer is present but it will also tell us the location of the ulcer, its type, and a clew to its complications. It will aid in diagnosis of cancer by the definite finger-print markings, which are easily read.

However, there are certain types of ulcer that the x-ray misses. These are the simple types of ulcer without complications and without any definite changes in the wall of the stomach. Many of these ulcers exist in the stomach, and should be treated before they present x-ray evidence of their existence. As a matter of fact, the x-ray should be used to confirm or reject the original diagnosis only when it is used in connection with other findings in the case. In other words, do not forget common sense when using a special sense.

Another type of ulcer that gives misleading findings under x-ray is the stenosing type. Many times in true obstruction the barium-meal mixture will be forced out of the stomach by the hyperperistalsis; and then again we may have delay in

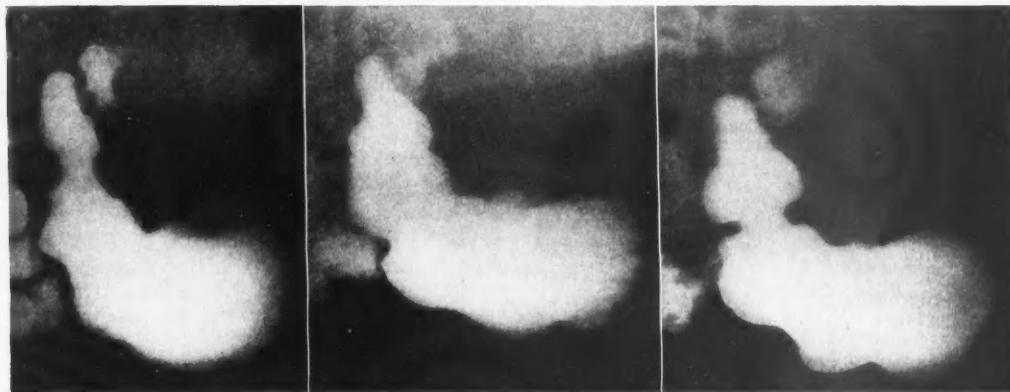


Fig. 1.—Before treatment.

Fig. 2.—Twelve days after treatment.

Fig. 3.—Twenty-seven days after treatment.

getting rid of the x-ray meal when there is *no* definite stenosis.

Clinical study, together with the proper test-meals, will help establish the type of obstruction. The question as to the cause of the stenosis must be answered before the patient is put under treatment because scar-tissue obstruction of high grade should be operated upon, except where the patient has severe organic heart disease or other systemic disease not permitting abdominal section. On the other hand, many obstructive cases may seem complete, but upon observation and treatment it will be found that the obstruction is due merely to spasm, or inflammatory swelling, or associated pathology.

Not only is the x-ray valuable for the proper diagnosis of ulcer, but it is also most valuable in checking the progress of the healing while under treatment. If the ulcer is of the penetrating type, a considerable filling up of the defect will be noted at the end of ten days or two weeks. Further study during the next fortnight will show more complete healing and not infrequently a complete disappearance of the ulcer deformity. A probable malignant ulcer will not show any marked change.

ASSOCIATED LESIONS

Another great problem in the medical and surgical treatment of peptic ulcer is the frequency of the association of lesions of the viscera of the portal lymphatic system. A patient may have more than one condition present at the same time. There is a definite interrelationship of infections of the gall-bladder, stomach, pancreas, and appendix. This should always be borne in mind, and it is often necessary to do a general exploration. Such explorations often find lesions whose presence had not previously been suspected.

There is not only a recurrence of the symptom complex of ulcer of the duodenum and stomach, but serious conditions may arise in any viscera in the portal lymphatic system. "Studies have shown that these viscera are closely connected through the lymphatics, that infection readily passes from one to the other" (E. S. Judd¹).

The studies of E. A. Graham, and especially Scheichi Kodama² show in their conclusions that:

- (1) "The lymphatics of the duodenum and gall-bladder are intimately and directly connected";
- (2) "Some of the lymphatic vessels of the liver, gall-bladder, duodenum, pancreas, and appendix enter the lymph glands which are located about the portal vein." By this explanation it is easy to understand why there exists the frequent association of lesions of the portal system if one thinks of these portal lesions as producing a hepatitis which spreads by the lymphatics.

E. S. Judd³ emphasizes the fact that cholecystitis is almost invariably associated with a certain grade of hepatitis or pancreatitis or both. These studies emphasize the great importance of the recognition and the further study of the pathological processes in the viscera of the portal lymphatic system.

SUMMARY OF TWO HUNDRED AND NINETY-NINE CASES

Clinically, in a review of 299 cases of peptic ulcer treated by the Sippy method at the Pasadena Hospital, we were impressed with the frequency of the association of lesions of the appendix, the gall-bladder, the liver, and the pancreas, with duodenal and gastric ulcer.

In a review of the 299 cases treated in the last forty-eight months, the records show:

Appendix removed prior to diagnosis of ulcer.....	67
Chronic appendix diagnosed during management.....	51
Appendix out during management.....	13
Appendix out following treatment.....	12
Gall-bladder removed prior to diagnosis of ulcer.....	12
Gall-bladder diagnosed chronic during management.....	48
Gall-bladder out during management.....	4
Gall-bladder with stones.....	6
Total.....	213

These figures present a total of 213 cases of portal lymphatic lesions in association with 299 cases of ulcer, aside from focal infections elsewhere.

Of this number are cited three case reports, which, since they are complete cases, focus the attention on the lesions of viscera of the portal lymphatic system. The necropsy reports are attached in two cases, clearly demonstrating associated lesions of peptic ulcer.

REPORT OF CASES

CASE 1.—Ulcer of lesser curvature, with stone and empyema of gall-bladder. Dr. G. F., age sixty-five, was diagnosed peptic ulcer, December 7, 1927. (See Fig. 1.) History of a similar attack eight years prior, associated with jaundice. The size and depth of his ulcer made it seem very probable that it was malignant. There was but slight evidence of shading of the barium shadow around the ulcer and no real filling defect adjacent to it. The general appearance of the patient and the fact that he had free HCl 53 and total 68, gave the opinion that it was benign. He was put to bed and treated by the Sippy method. A second x-ray series (twelve days after) on December 19, 1927, showed "Marked progress in healing of the ulcer." (See Fig. 2.) Patient symptom-free after the first week. A third x-ray series January 3, 1928 (two weeks later), found "Ulcer shadow much smaller." (See Fig. 3.) He left the hospital January 10, 1928.

On January 23, 1928, at midnight, he was seized with sudden severe pain in the epigastrum, with nausea and elevation of temperature. With the knowledge that his ulcer was healing and the association of portal lymphatic infection, a diagnosis of an acute exacerbation of a chronic cholecystitis was made. Dr. John Breyer, the surgeon, found the gall-bladder buried in adhesions, swollen, tense, and reddish grey; thickening of lesser curvature (area of the ulcer) and the appendix long and fibrous. The laboratory diagnosis found cholecystitis (empyema) with a single stone. The patient left the hospital February 22, 1928, having gained thirty pounds and "feeling fine."

On October 1, 1928, he was seized with severe pain in left shoulder and abdomen. Lungs were negative. Jaundice and tenderness over liver suggested hepatitis. Leukocytes 16,500 with 94 per cent polymorphs. The second day he developed a chill, temperature of 106. A pleural friction rub and crepitation. Rales in the left chest. Pneumonia was diagnosed. Death on the fourth day.

Autopsy, by Dr. Frank Sturdevant, was:

Left pleural cavity: A few small fibrinous adhesions on lower lobe near the base. **Left lung:** Healed tuberculosis foci at apex. Small interlobular adhesions. Consolidation of one-third of the lower lobe (red hepatization). **Right pleural cavity:** Old and dense adhesions to lung and pleura throughout, congestion and edema of right lower lobe, but no consolidation. **Aorta:** Arteriosclerotic plaques present (narrowed and sclerotic). **Abdominal cavity:** Omentum is adherent to the peritoneum anteriorly. **Liver:** Small, mottled, and cuts with increased resistance. Thrombosis of portal vein. A two centimeter abscess in the upper part of right lobe. A stone in the common duct, measuring 0.6 centimeter in diameter. Pancreas edematous and fibrous and blood vessels sclerosed and thrombosed. Thrombosis of splenic artery. **Appendix:** Fibrotic. **Stomach:** Ulcer scar at the pyloric ring, obstructing pyloric opening, about one-third. On the lesser curvature, midway between the pylorus and cardia, an old healed ulcer 1.2 centimeter in diameter. (Stomach dilated.) **Bladder:** Contracted, enlarged plus two. **Left kidney:** Enlarged one-third. Capsule thickened and adherent, strips leaving a granular surface. (Chronic, with an acute parenchymatous nephritis.) **Right kidney:** Similar to left, except for a small amount of pus in the pelvis. Marked arteriosclerosis of the abdominal arteries and iliacs.

Summary:

1. Chronic pleuritis (right).
2. Healed tuberculosis of left apex.
3. Embolic pneumonia of left lower lobe with an associated acute pleuritis.
4. Arteriosclerosis.
5. Acute, subacute and chronic hepatitis, pancreatitis and splenitis.
6. Healed ulcer of stomach.
7. Stone in common duct and liver abscess.
8. Portal pancreatic, and splenic thrombosis.
9. Healed gastric ulcers with pyloric obstruction.
10. Acute and chronic nephritis.

Causes of Death:**Primary:**

1. Portal thrombosis.
2. Liver abscess.
3. Stone in common duct.

Contributory:

1. Embolic pneumonia.
2. Acute parenchymatous nephritis.

This illustrates the association of gastric ulcer with cholecystitis.

The right upper quadrant is the surgical site of the abdomen, due entirely to the evil associations of the important viscera of the portal lymphatic system. To get rid of this evil the possibilities of the association of the appendix, the gall-bladder, and the pancreas with ulcer of the stomach should be borne in mind.

111

CASE 2.—Duodenal ulcer and appendicitis. Mr. H. B. S., age forty-eight, had "stomach trouble" for six years. Diagnosed: Ulcer. Ulcer of the duodenum on the lesser curvature, (September 17, 1923.) Ambulatory treatment for three weeks yielded no improvement. Hospitalized, and four weeks later was discharged as "improved." Clinically, showed ulcer still present but smaller.

Six months later he had an acute attack of abdominal pain. Forty-eight hours afterward he walked to the office. White blood count, 30,000; marked rigidity of right lower rectus. "Acute appendicitis" diagnosed and operated upon that afternoon by Dr. H. S. McGee. A gangrenous appendix was removed. Death on tenth day.

Clinical diagnoses: Peritonitis secondary to ruptured appendix and operation. Duodenal ulcer.

Autopsy by Dr. A. M. Moody: Partial obstruction of ileum with dilation of small bowel and stomach. Healed ulcer of duodenum. Wound discharging, with gutta percha drain. Localized small abscesses in region of cecum.

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CASE 3.—Duodenal ulcer and pancreatitis. Mrs. S. C., age sixty-five, was diagnosed: Duodenal ulcer with low-grade obstruction. Treated at the hospital six weeks. X-ray report, "Marked deformity of the duodenal cap throughout the series." Repeated urine examinations while in the hospital found "no sugar."

On October 1, 1927, she was free from ulcer pain, and had gained in weight from 109 to 152 pounds. At this time she was hospitalized on account of obstructive gastric symptoms and sugar in the urine. Blood sugar was high (300 to 360 milligrams). Treatment with diet and insulin did not relieve. Gastro-enterostomy was done, performed by Dr. H. S. McGee. Patient recovered and was discharged March 24, 1928, with normal blood sugar, and has remained so.

COMMENT

Ulcer in association with pancreatitis can cause hyperglycemia. Surgical and medical management of the duodenal ulcer brought about a return to normal.

Although gastroduodenal ulcers heal under proper medical treatment, we must be constantly on the alert for associated pathology. Intelligent observation, with frequent x-ray examinations, finds that the biggest and deepest ulcers gradually get smaller until they disappear, and the patient is symptom-free. However, many cases in which lesions of the portal lymphatic system exist may have a return of symptoms or a recurrence of ulcer, because these lesions are foci of infection in the gall-bladder or appendix.

Sippy stated that in order to treat peptic ulcer intelligently it is necessary to determine the age, the type, the location, and complication of ulcer. It is necessary to go further and determine if there are any lesions of the portal system, such as cholecystitis, appendicitis, pancreatitis, hepatitis, or peritoneal adhesions.

The taking out of an acute or chronic appendix does not cure the ulcer. Note the number of patients in the table who had an appendectomy before an ulcer was discovered. This is one reason why patients do not always get well following an appendectomy. There is pathology elsewhere.

Patients with foci of infection in the portal lymphatic system should have these foci removed at earliest recognition. If physicians are on the alert for associated ulcer pathology, the diagnosis will be more promptly and better end results will be had.

But after all, as stated by Charles Gordon Heyd, when "all the data have been evaluated, and you have a complete record of the individual's physical state, nevertheless you cannot cure that patient or tell him how to live by handing him a slip of paper, advise him to read it and carry out his own treatment. At some place in the final analysis there must be a personal touch and psychological evaluation of the patient in regard to the advice given him."

CONCLUSIONS

1. X-rays are valuable for the proper diagnosis of ulcer and its complications.
2. Ulcers should be treated earlier, before complications appear.
3. The lymphatic drainage of the stomach, liver, pancreas, and appendix are anatomically closely connected.
4. In 60 per cent of the cases reported above, gastric duodenal ulcer had associated pathology in the liver, the pancreas, the gall-bladder, and the appendix.
5. Healed ulcer will not leave the patient symptom-free unless the associated pathology is eradicated.

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DISCUSSION

FRANKLIN R. NUZUM, M. D. (Cottage Hospital, Santa Barbara).—The author's forceful paper emphasizes the frequency of ulcer and the number of untreated ulcers in every community. He stresses a point infrequently noted in discussions of ulcer, that is, the common association of pathology in the periportal system, particularly the gall-bladder; and insists that ulcer patients must be rid of focal infection, whether it be in teeth, tonsils, periportal system, or prostate, as one phase of ulcer management.

In a recent survey of a large number of ulcer patients coming to the Mayo Clinic, it was found that a high per cent had received very inadequate ulcer management. This inadequate care could in many instances be laid to the door of the physician himself and indicated that in the minds of physicians and, therefore, in the minds of their patients, the importance of ulcer management and proper care was not appreciated.

A reiteration of the oft-repeated but so often un-followed necessity of continuous control of acid secretion of the stomach in the treatment of ulcer is not amiss: Ideal management consists in hourly feedings of milk and cream, or for those patients who do not tolerate cream, whole milk, from seven o'clock in the morning until seven o'clock in the evening, and on half-hour intervals between, adequate dosage of alkaline powders of the Sippy type. To these feedings other appropriate bland foods are gradually added. Variation in the type of bland food and in the amount of milk and cream is necessary with many individuals.

Whether or not the hydrochloric acid of the stomach is entirely neutralized by the powders and the frequent feedings, should not be left to speculation. One hour following the final evening powder the stomach should be aspirated, removing as much of the content as possible. This content should be titrated for the presence of free acid and, if it is present, the amount of alkaline powder given should be increased to the point that the evening aspirations no longer contain free hydrochloric acid. Proper attention to such details as this often accounts for the difference between success and failure in the treatment of this group of patients.

In a large group of patients who must continue at work, a regimen such as sketched above is followed with difficulty. These persons may mix a given amount of powder with milk in a thermos bottle, take this with them to their work and at the end of each hour drink the proper amount of its content.

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FRED H. KRUSE, M. D. (384 Post Street, San Francisco).—The physician who has handled any considerable number of peptic ulcer patients realizes only too well from sad experience that in spite of proper management and control with even a fully cooperative patient, inability to secure relief or periods of exacerbation of an ulcer that should otherwise have yielded to management, frequently means an associated abdominal pathologic condition.

In my experience, a diseased gall-bladder has been the chief abdominal factor in causing recurrences or exacerbations, particularly in duodenal ulcer. Unless such an ulcer quickly heals or remains quiescent, cholecystography should be added to the other studies of the gastro-intestinal tract.

I have observed duodenal ulcers at operations for diseased gall-bladders when only the latter was expected, and have seen acute gall-bladder attacks develop, with the appearance of a cystic gall-bladder tumor in the right upper quadrant, during routine ulcer management. One such case has particularly impressed me: it is that of a man of middle age who had had an ulcer complaint for seven or eight years, which yielded quite readily at first to ulcer management. During the next five years, however, there were rather constant exacerbations, apparently without reason, culminating in an acute gall-bladder attack, with a swollen and tender gall-bladder tumor felt in the right upper quadrant. Since surgery for this condition three years ago, there has been no recurrence of the ulcer symptoms.

Therefore, while admitting the influence of associated pathologic conditions in the abdomen upon peptic ulcer, and its ready exacerbation thereby, still, I feel a warning should be sounded against surgery for borderline gall-bladders and border-line appendices. A large percentage of the patients coming to us for chronic ulcers have had their appendices removed, without any material benefit so far as I have been able to determine. Very likely these particular appendices were not affecting the peptic ulcer as surely some may do. We have learned in cholecystitis, without stones, that the disease is general throughout the liver as well as the gall-bladder and the biliary tract. Surgery, only too commonly does not give relief. Therefore, in borderline cases, and in cases where the gall-bladder fills and empties well, even though an associated cholecystitis and hepatitis are suspected, I think measures other than surgery are indicated, and I feel that this state-

ment would include many of the female pelvic conditions, which might be thought to exacerbate ulcer.

All these conditions should be kept in mind, and when definite pathologic states can be demonstrated, in spite of right management, these foci should be eliminated. I should be sorry to see a general wave of abdominal surgery follow upon a demonstration of the larger percentage of peptic ulcers. Just as we feel that focal infections about the head—tonsils, teeth, and nasal sinuses—may influence the ulcer, and ultimately should be cleared up, so must the abdominal influences be considered, but radical procedures are not indicated in any of these conditions.

I particularly agree with and desire to emphasize Doctor Speik's statement about the ready and complete healing of gastric ulcer by the proper regimen and under the right observation and control. In the University of California Hospital we have had a series of cases of these lesions on the lesser curvature in which malignancy has been considered as against benign ulcer. A careful period of rest for two weeks and ulcer treatment, with a rescreening at that time and a comparison of results, has proved how astoundingly well and rapidly a gastric ulcer will heal, and how frequently this period of therapeutic observation is of value in discriminating between a benign and a malignant lesion.

I also want to emphasize that six-hour retention when first observed does not mean stenosis, and even when stenosis exists it is surprising how well many of these patients get along if the stenosis itself is the only factor involved (that is, if there is no great hypersecretion and no concomitant ulceration or irritation about the site of an old ulcer). Of course, hypersecretion very commonly exists in stenosis and recurring ulceration is frequent.

In people well advanced in years with stenosis, and where other contraindications exist for operation, a careful program, including moderate alkalinization and emptying of the stomach at night, will result in relief of symptoms which, when once relieved, if the patient is careful about diet and rest, may not recur. I have in mind three cases of old duodenal ulcer, completely healed, with marked stenosis at the pylorus, with almost complete six-hour retention, in individuals of sixty-five to seventy-two years of age, who are perfectly comfortable and happy, and as long as they exercise reasonable care in their diet they suffer no distress.

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GRANT H. LANPHERE, M. D. (1930 Wilshire Boulevard, Los Angeles).—We have found in the past that a majority of peptic ulcers heal with no treatment or any treatment. The minority are sometimes very resistant to the best forms of management. A comparison of investigations in the clinical aspects prevalent in the efforts to further the physiologic and pathogenic studies in the etiology, pathogenesis and treatment of ulcer, is afforded in this opportunity to join in the discussions of Doctor Speik's presentation.

His points in the use of the roentgen-ray in the study of ulcer are well taken. We might add in this connection that we find that roentgen-ray examinations do not always reveal the presence of small ulcers in the walls of the stomach and duodenum.

In his discussion of peptic ulcer associated with the lesions of viscera of the portal lymphatic system, he states that the taking out of an acute or chronic appendix does not cure the ulcer because there is pathology elsewhere. May we add that in spite of the conception on the part of some that a diseased appendix causes pylorospasms, the removal of the appendix seldom results in the cure of the ulcer.

We agree with Doctor Speik that the clinical symptoms of ulcer are oftentimes masked by the associated pathology that may be present. Ulcer symptoms are frequently made worse, and the ulcer prevented from healing due to the presence of diseased conditions of other organs, particularly the liver, gall-bladder, large intestine, and organs of the pelvis.

He draws the conclusion that healed ulcer will not leave the patient symptom-free unless the associated pathology is eradicated. Granted it were possible to remove all foci of infection, may we go a step further and add that neither can the constitutional pathology nor the neurogenic factor be disregarded.

We believe that ulcer patients are deviations from the normal and that they are constitutionally predisposed to the formation of ulcer. This predisposing cause, which is as yet undetermined, is probably present from birth in the so-called vagotonic individual. The etiology, pathogenesis, and treatment of ulcer still depends upon the discovery of this predisposing factor, which undoubtedly operates through the nervous system.

We grant that treatment of ulcer requires consideration of type, location, age of ulcer, associated pathology and possible complications, and that these complications have their sources in part in focal infections which require surgery and medical treatment.

Surgery and medical treatment afford opportunity for obtaining subjective evidence regarding the needs of the so-called vagotonic individual. This is the individual who requires adjustment to and relief from anxiety and emotional strain. We venture the assertion that Doctor Speik has this in mind in quoting Charles Gordon Heyd as follows: "At some place in the final analysis there must be a personal touch and psychological evaluation of the patient in regard to advice given him."

Dr. E. S. Judd maintains that experience seems to show that there is a tendency to the formation of ulcer in certain individuals, and that no matter what treatment is undertaken, recurrence is almost certain to take place.

We believe that nervous imbalance prevents normal pyloric function and that all conditions which produce a state of fear and excitement and its consequent disturbance in the high-strung, emotional, vagotonic individual with sensitive nervous system and certain physical peculiarities which clearly distinguish him from the sympathetic type, requires, aside from whatever surgery the case demands, medical management that includes guidance and control of the increased nervous tension of the neurotic, wearisome, emotional, and probably hard-working individual, particularly in the intractable case of peptic ulcer in its clinical aspects.

Therefore we proceed on the theory that since ulcer patients are governed by influences operating through the nervous system, and that all possible surgical and medical management must recognize this fact, ulcer patients are completely cured, if ever, by treatment that is successful in relieving them from emotional strain and which results to them in a feeling of general well-being.

LIFE INSURANCE EXAMINATIONS

By THOMAS G. DABNEY, M. D.
San Francisco

DISCUSSION by Henry W. Gibbons, M. D., Sacramento; C. Coleman Berwick, M. D., San Francisco; W. W. Beckett, M. D., Los Angeles.

ALONG with modern developments in social, industrial, and economic life have come important changes in conditions affecting life insurance mortality. As a result there has occurred increased difficulty of diagnosis and detection in some of the more important of these conditions. This has at times brought to the medical directors new and complex problems, making it incumbent upon them, in order to meet these problems, to adopt more thorough and refined methods of selection. In doing this the life companies have taken advantage of the various mechanical and laboratory

aids to diagnosis in greater or less degree. Roentgen rays, fluoroscope, electrocardiograms, blood-sugar estimates, etc., are being used as a matter of routine in certain cases, and in many other cases as indicated by the facts brought out on the examination. While these mechanical aids are of great assistance and are giving much valuable information, they cannot supplant the information given by the examiner any more than they can take the place of bedside diagnosis in practice. The work of the examiner in his personal contact with the applicant will remain the basic and fundamental agency in selection, and is recognized as such.

Almost every physician engaged actively in the practice of medicine has at some time made examinations of applicants for life insurance as a part of his routine work, and with many of them a not inconsiderable part of their incomes have been derived from this source. But despite the extent and importance of this work both to the examiner and to the company engaging his services, despite the increased interest in life insurance medicine generally and the recognition by the medical profession of the prognostic value of the great mass of information gathered and classified by life companies, little or no systematic attempt has been made to educate the examiner in this special line of work, although there have been definite advances in all other selection agencies used by life companies. The question will naturally arise here, Why educate a physician in something that has been an essential part of his training during his study of medicine and of his daily routine after graduation? Is the completion of an examination of a life insurance applicant different from the examination of a patient for diagnosis? In reply it may be said that it is quite different in some respects, and that even though a physician may have had special training as a diagnostician, it does not follow that he will make a satisfactory life insurance examiner without special training along this line.

DEFICIENCIES IN LIFE INSURANCE EXAMINATIONS

We do not desire to make medical directors out of our examining staff, nor would it be proper or advisable to attempt to do so. However, the writer is more and more impressed with the fact that deficiencies in the value of examinations are not as a rule due to carelessness or lack of efficiency on the part of the examiner, but to a lack of knowledge on his part as to the requirements of life companies. Most physicians doing this class of work are striving to give good service to their companies and are eager for any information that will assist them in giving companies what they require. It is unreasonable to expect these men to make examinations which will always be satisfactory unless they have some understanding of at least the fundamentals of modern life underwriting. The unnecessary number of early death and disability claims and the large volume of correspondence necessary to complete exami-

nations in the cases of untrained examiners, as compared with the work of those who have received careful training, demonstrates without question the advantage that could be obtained by training examiners in life insurance medicine.

HISTORY OF MEDICAL EXAMINATIONS IN LIFE INSURANCE WORK

In the beginning of life insurance as an organized business there were no medical examiners and there was therefore no medical selection. The applicant was simply brought in person before an officer of the company with a letter of recommendation from some prominent person in the community, or at times with a letter from the family physician. The early practice is described in the "History and Constitution of the Equitable Society of London" as follows: "The regular employment of medical men to examine candidates for life insurance is a practice of comparatively recent date. The custom of the old offices prior to 1820 was for each life proposed to sign a very distinct and binding declaration to the effect that the individual had not had cow or smallpox, or any other disease tending to shorten life. The proposer had to give a reference to two persons of good repute. Parties who did not appear before the directors were required to give three references."

As time went on, certain medical questions would arise which puzzled the companies' officers, and as a result it became the custom to call on a physician to give information regarding these medical questions. This physician finally became known as medical adviser. As business increased, the time of the companies' officials became taken up with other duties and the selection of risks was gradually left to the medical advisers. These in time became medical examiners, and from this simple beginning there gradually evolved medical departments, medical directors and, finally, the highly organized selection machinery in life companies at the present time. After the development of the medical department, the selection of risks was left entirely to this source, and was based on the general prognostic agencies existent at the time and the personal experience of the medical director in his own company, augmented at intervals by investigations of individual companies to analyze their own experience.

SPECIALIZED MORTALITY INVESTIGATION OF 1903

In 1903 there was published the result of what was known as the Specialized Mortality Investigation. This was an investigation entered into by practically all old-line companies for the purpose of ascertaining the effect of minor impairments on risks which had been accepted as standard. This investigation was considered inadequate, and in 1907 the Association of Life Insurance Medical Directors appointed a committee to formulate plans for a thorough study of supposed medical impairments. In 1909 the Actuarial Society of

America also appointed a committee to extend the work of specialized investigation. These committees joined forces and proceeded with what was known as the Medico-Actuarial Investigation. About forty of the leading companies entered into and contributed data for this extensive research, these companies at that time having over 90 per cent of the business in force in all old-line companies. The material used by the committee was taken from the records of these companies, giving their experience over a period extending from 1885 to 1908, the data being submitted to a central bureau where it was studied and classified. Very detailed and extensive investigation was made and published on the effect of build on mortality, the effect of a large number of physical impairments, occupational hazards, habitat, etc. The information obtained was purposely arranged in such a way that any company could continue the investigation of any impairment through its own experience. This has been done in many instances, and has been carried out in greater detail by the individual companies.

Some idea of the magnitude of the investigation may be had when it is known that for the determination of the effect of build on mortality alone, data was taken from the records of 812,221 policies on the lives of men, covering more than five million years of exposure.

NEW RATING SYSTEM

After the completion of the Medico-Actuarial Investigation it was possible to adapt the information obtained therefrom in calculating the amount of premium necessary to take care of the additional mortality experienced as the result of almost any individual impairment, and it further encouraged the adoption of a new system of rating which had previously been suggested. This new rating system in effect gave a definite percentage value to the actual mortality resulting from any individual impairment as compared with the normal or expected. Because of this percentage or numerical value it was called the Numerical System of Rating,* and was adopted in its entirety by several of the leading companies, and has since been partly or wholly adopted by many others. It is the nearest approach to a scientific mortality estimation that we have yet had. It embraces many ramifications and fine gradations, and its successful application is based primarily on the assumption that the examiner will give to the medical director an exact picture of the applicant, as to any impairment found on examination or as to the history of any impairment.

CLASSIFICATION OF RISKS BY MEDICAL DIRECTORS

When the medical directors know that they have been given this picture complete, they can proceed without hesitation and without fear of error in assigning the case to the mortality class in which

* The numerical rating system had previously been suggested by Dr. O. H. Rogers, then medical director, and Mr. Arthur Hunter, actuary, of the New York Life Insurance Company.

it belongs, regardless of what impairment may be presented, if any. It can readily be seen that the examiner's function is one of great importance and responsibility, because unless there is previous information on file the medical directors proceed to take action, assuming that the examination report has given all information pertinent to the case.

HISTORY OBTAINED FROM THE APPLICANT

The material which the examiner uses in painting this picture is the history which he obtains from the applicant and the information obtained from his own personal examination of the applicant. Of these two, the latter is a comparatively simple matter, and the former a complex one in comparison. In making the physical examination the examiner is left entirely to his own devices and is not compelled to consume time in asking questions, waiting for the applicant's replies, etc. If properly trained in detecting and evaluating abnormal physical signs, and if alert (and he must be alert at all times) he can make a thorough and dependable examination in a short time.

History taking presents an entirely different problem; the examiner is not dependent upon himself alone, but must have or must be able to develop the co-operation of the applicant.

When an applicant is presented for examination the examiner should definitely adjust his mental attitude to the determination that, regardless of how favorable is his impression, he is going to carefully elicit the history and is going to make a thorough physical examination, always remembering the admonishment of one of the early medical directors that "a fair exterior may cloak much internal mischief." It is true that the majority of applicants are free from serious physical defects and will be frank and candid in their statements. It is equally true, however, that it is necessary to carefully examine the "ninety and nine" in order that the defects in the hundredth be not overlooked. It is necessary to make both parts of the examination specific and complete in each case. This is a *sine qua non* for the successful examiner. Any medical director will readily confirm the statement that thousands of dollars have been lost by life companies on account of perfunctory examinations.

REPORTING ON PHYSICAL FINDINGS

In reporting a physical finding, accuracy of diagnosis and description are, of course, necessary. The same requisites apply to reporting a history, but in addition it should always be borne in mind that in histories the time which has elapsed since arrest, recovery, or operation must be given and if possible the date should be given as to the month as well as to the year. The time element is a most important factor in classifying risks.

In taking the history the examiner must dominate the situation in a sympathetic but firm manner, and must not permit the applicant to do so. Statements carelessly or lightly made should not be accepted without careful investigation to

ascertain whether they presage a history that might have a definite bearing on the risk. The examiner must at all times have before him the fact that frequently he is getting only half the picture, and that to get the true picture often takes patience and finesse; but he will be well repaid by the many interesting histories that he will unfold from apparently insignificant statements, and by the certainty that these histories were developed as a result of his skill in history taking.

Permitting a history of one condition, which perhaps may be freely and fully given, to overshadow histories of other conditions which may exist, should be guarded against, and the history taking pursued as definitely as if no previous history had been developed.

A recent case may serve better to make this point clear. An examination was received on a man fifty-six years of age. The only history given was, "Eight months prior consulted physician account neuritis left shoulder and left arm. Cured." The only adverse feature on physical examination was blood pressure 154-96. The applicant was seen a second time for additional blood pressures and to develop more complete history of the neuritis. Upon further questioning it was ascertained that he had consulted his physician on account of neuritis, as stated, and had apparently been relieved of the condition. But it was also developed that two months later he had again consulted his physician, this time because of a definite and rather marked attack of vertigo, with two subsequent attacks, and his physician had found his systolic blood pressure running pretty constantly around 154. This additional information of course changed the entire complexion of the situation. A man with attacks of vertigo coming on at the age fifty-six, blood pressure running constantly above normal, and neuritis in left arm, would certainly be looked upon with suspicion. The original examination in this case was made by a man who is usually thorough in his work, and the additional history was given by the applicant without restraint. It was simply an instance where the examiner permitted himself to be guilty of a lapse of vigilance, and the applicant "let it go at that."

EXAMINATION BLANKS

The examination blank used by life companies should be looked upon as a means, not an end. It is impracticable to embody in one form all questions that would be necessary to bring out details of each impairment, and the questions on the blank are sent to the intelligent examiner as a guide to indicate the nature of the information required. Any questionnaire that can be devised is in one respect a dangerous instrument, because the questions may be answered in a more or less perfunctory manner and tell the truth, but not all the truth. Every experienced examiner has learned that he must depend on his own ingenuity to ask such additional questions as are necessary to develop true histories.

Frequently there are certain expressions used by the applicant and accepted by the examiner

which upon further investigation are very likely to be the portals through which we enter a trail of more serious conditions; such terms, for instance, as, "Have upset stomach occasionally like anyone else"; "Indigestion"; "Tonsillectomy"; "Consulted physician for general examination"; "Tired out from overwork"; "Nervous breakdown." These should not be accepted without careful investigation. We know that a persistent gastro-intestinal disturbance, even though mild in character, is frequently a reflex symptom of some serious condition, and sometimes is the only early symptom. Investigation of deaths from disease of the coronary arteries, for example, develops that frequently the only symptoms, either subjective or objective, had been a digestive disturbance, often vague and indefinite and frequently not appearing until a few months before death. Again, in gastric carcinoma it is found in the investigation of death claims that frequently there had been a long period of indefinite gastro-intestinal disturbance, with no apparent cause, and many times not considered sufficiently important to seek medical attention until symptoms from obstruction begin to supervene. Tonsillectomies in adults are more often done because of some constitutional rather than local trouble. While it is of course very desirable that people go to their physicians for general examinations as a matter of routine, in many cases this is done because of some specific complaint and not for the implied "routine check-up." Tired out from overwork and nervous breakdown are terms which may cover a wide range of conditions, from a simple temporary physical fatigue to a true neurasthenia, or possibly a mild pulmonary tubercular infection. Certainly, none of the foregoing expressions should be passed on to the medical directors without having been carefully investigated and explained. In addition to the usual interrogations, it should be ascertained whether a physician has been consulted, what his diagnosis was, whether gastro-intestinal series had been done, a chest picture, or electrocardiogram made, basal metabolism done, treatment received, etc. It would seem obvious that such questions should be asked as a matter of routine. The fact remains, however, that frequently they are not, and that many times examinations are sent in containing these expressions without any explanation whatever, and of course rendering it impossible for the medical directors to take action without writing to the examiner for further information.

PHYSICAL EXAMINATIONS

Scant reference has been made so far to the physical examination proper, the writer feeling that it would be an assumption on his part to attempt to give instruction in something which is elementary with every physician. There are certain features, however, in which the examination of the applicant differs from that of the patient, to which it might be of some advantage to make brief reference. When a patient goes to his physician there is a frank assumption that some im-

pairment exists. When the applicant is brought before an examiner there is usually an equally frank assumption that no impairment exists. The examination in the first instance is specific and in the second instance is distinctly general. In the latter case the mental attitude of the examiner is most important. When a healthy and vigorous looking subject is presented, even the experienced examiner is inclined to be influenced by his favorable appearance, and it is very easy to assume the attitude that only a casual examination is necessary. It is true, however, that we get some of our biggest surprises in such cases. The examination should, of course, be just as painstaking in these cases as in cases where the applicant's appearance or history would indicate the probability of some impairment. The examination should be made literally from head to feet. This can be done quickly if done systematically. Eyes should be examined to ascertain whether pupils react normally and whether there is evidence of exophthalmos; ears examined for indication of discharge, and whether any impairment of hearing exists; tongue, teeth, gums, tonsils, and pharynx inspected. (Where the examination is made outside of the office a vest-pocket flashlight will be found useful for illumination.) The neck should be inspected for thyroid enlargement, enlarged cervical glands, scars from cervical adenectomy or cervical abscess. It is not necessary to comment upon the examination of the lungs. It is well to know, however, that in classifying risks with heart impairments there are several important considerations. The classification varies according to whether there is history of rheumatism, a history of focal infection, the valve or valves affected, the degree of hypertrophy, and whether any suggested impairment of the heart muscle. The location and time of a murmur should be definitely stated, whether it is transmitted, and if so, in what direction; whether murmur or murmurs are heard in more than one location, and the position of maximum apex impulse. An examination of the heart should not be considered complete unless the applicant is exercised and heart is examined in reclining as well as upright position. This is particularly true in cases where heart sounds are suspicious but no definite diagnosis can be made, and in applicants past middle life. If there is doubt as to significance of physical signs, arrangement should be made to make a second examination on a different day.

In recording abnormal blood pressures, care should be taken where the blood pressure is above normal to ascertain, if possible, whether it may be due to emotional causes. There are, in a general way, two types of applicants who fall into this classification—the apprehensive nervous type, usually young adults, whose nervousness is obvious and is manifested by rapid heart action and, of course, a correspondingly high blood pressure; the other type, outwardly calm, with normal pulse rate, but also apprehensive to the extent that possibly some vasomotor construction results. Frequently, after reassuring these applicants and

diverting their thoughts, the blood pressure will become normal. If it does not do so, these applicants, as well as those with abnormally high blood pressures not due to emotional causes, should be seen on a second and possibly a third day.

Most companies require additional specimens of urine to be examined in cases of albumin; likewise in sugar cases. In the latter it is their rule to request that a specimen be obtained after ingestion of some form of carbohydrate.

It should always be borne in mind that the life insurance examiner is called upon to find and record any existing impairments in a single and rather brief interview, which he would consider totally inadequate if he were seeing the subject as a patient, and out of fairness to his company he should not hesitate to arrange to see the applicant a second time if he is in doubt as to the significance of anything found on his examination.

CONCLUSION

It is by no means the purpose of this paper to criticize the ability or intent of any physician making life insurance examinations; on the contrary, the writer has for many years enjoyed the privilege of occupying an intermediate position between the home office medical department and the examiners in the field, and has the greatest respect and admiration for these men in their efforts to give their companies the best possible service. Many of them are in outlying communities far removed from their home offices and having little contact with them; but they are jealous of their franchises and loyal at all times to the trust imposed in them. However, it is necessary squarely to face the fact that, taken as a whole, life companies do not get the results from examinations that they should; that with the changing conditions affecting mortality it is becoming increasingly necessary to adopt more careful methods in the selection of risks; that one of the most important of these is dependable examinations; and that such examinations can only be had by careful selection and education of the examiners.

It is the tendency of life companies not only to be more careful in the selection of physicians who will be commissioned to make examinations, but to call on them for more thorough and efficient reports. The time is probably not far distant when a commission on the medical staff of a life company will be an assurance that the recipient has qualified as a specialist in life insurance medicine.

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DISCUSSION

HENRY W. GIBBONS, M. D. (Medical Director, California-Western States Life Insurance Company, Sacramento).—It is gratifying to see in print a paper on life insurance examinations which sets forth so clearly, concisely, and comprehensively the point of view of the medical director.

Considering the almost universal contact that physicians have at one time or another with life insurance companies, it would appear that such an educational article would have a wide appeal. However, I apprehend that the appeal is somewhat dulled by the prevailing impression that a life insurance examination is

a very cursory affair and that it does not call for very much professional acumen. On the contrary, to one who has made many insurance examinations it is just as intriguing and often requires more skill to determine that an individual is in reasonably normal physiologic balance as it does to find that he has some very obvious pathologic condition; and, further, where an examiner finds a pathologic condition it taxes his knowledge and skill to determine what effect such a condition is going to have on the future health and longevity of that individual. The art or science of "long distance" prognosis is only vaguely understood by the average clinician who follows a few individuals for a few years; whereas it is well understood in the aggregate by life insurance companies, which follow thousands of like individuals through a lifetime.

The clinician is not apt to be impressed by a slight defect in an apparently robust individual. A trace of albumin, a rapid pulse, a slightly elevated blood pressure, a little shortness of breath, or an "acid stomach" are symptoms which have caused no complaint on the part of the individual, but insurance statistics show that they are often the first slight manifestations of degenerative processes, which will ultimately lead to frank disease and to a curtailed longevity.

A definite diagnosis and description of a frankly morbid state found in an applicant is greatly desired by a medical director, but it is equally important that the examiner shall report and describe any abnormal finding, even though it has no apparent effect upon the present health of the subject.

Richard Cabot has said that if he were given the choice between a history and a physical examination in making a diagnosis, he would choose the history. Life insurance companies feel that way because they have found by experience that they can make a very good selection of young adults for small policies on a careful history alone, without any physical examination. As Doctor Dabney has stated, the medical blank cannot be all-inclusive; it can merely indicate to the examiner the lines to follow in making his examination. It relies upon the examiner's ingenuity to amplify the questions where needed and to wheedle out of a rather reluctant prospect all the pertinent facts in his medical history. The examiner must be astute enough to follow leads; a "nervous breakdown" may mean anything from a nervous headache to an active tuberculosis or a sojourn in an insane asylum. A few judicious questions will break down resistance and secure the facts.

The art of description is a wonderfully interesting thing. How often it is apparent that a good clinician has made a careful examination but has failed to convey his impressions or conclusions in his report. A few adjectives, dates, and terse statements will print a picture both definite and convincing. How many physicians would care to make a diagnosis or appraise the future health of a young man on unqualified statements such as these: "Small goiter, no symptoms," or "Gastric ulcer three years ago, no symptoms since"; yet these answers are all too frequently observed. We call them "monkey wrenches," because they interfere with the machinery of underwriting, cause correspondence, delay, and discontent.

At the present time "life insurance medical underwriting" is a specialized branch of medicine. It is dependent upon a knowledge of clinical medicine, of vital statistics, of life insurance statistics, and of actuarial science. Therefore the insurance company does not expect its examiner to be a specialist in this branch, but it does expect him, as a clinician, to give the company an accurate, careful and thorough history and physical status of the subject examined, so that definite underwriting principles may be applied to the individual case. This kind of service is being rendered by a large corps of regular, experienced examiners, but much unsatisfactory work is submitted by otherwise well-educated and well-equipped physicians who fail to appreciate the necessity of examining an apparently healthy individual with the same care and thoroughness that he would apply to a patient and who fails to appreciate the importance of reporting exact findings in a concise but comprehensive manner.

A study of Doctor Dabney's paper should give any educated and conscientious physician an insight into the point of view of the medical director and, if he is inclined toward examining work, should make him a satisfactory examiner.

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C. COLEMAN BERWICK, M. D. (Assistant Medical Director of the Metropolitan Life Insurance Company, San Francisco).—After reading Doctor Dabney's paper there certainly is very little left to be discussed. He has written his article with the greatest of care and thought, and I am sure the reader will finish the paper with a much better appreciation of just what life insurance companies desire most when an applicant is to be examined for insurance.

The subject of life insurance examinations should be of interest to both the medical examiner and the medical practitioner. There has long been a misunderstanding, which is more or less general among the medical profession, regarding what insurance companies term "hazards of previous illnesses." These hazards are constantly being reviewed by actuaries, with the entire life history available in the form of death and disability claims, and changes in the morbidity and mortality rates computed. Only by compiling many thousands of particular instances and rating the end-results can proper rates be reached. It is not generally understood by the medical profession how much of the so-called non-serious illnesses influence the aggregate morbidity and mortality. It takes a considerable period of time to draw off what the medicactuaries call an "experience" on specific points in question. In order to arrive at a proper rating, the original examination blanks must be accurate and complete. It is for this reason that too much stress cannot be laid on the matter of history taking. A careful history, as the author so cleverly points out, is the most important part of the life insurance examination. Too often this past history is more or less hurried through by the examiner, who is too anxious to see what the applicant's examination reveals, thereby missing to a great extent the real purpose of the stereotyped form of examination blank.

Expediency and accuracy in completing examinations and any follow-up work required are of vital importance to the company in order that full justice may be done the applicant for life insurance. Knowing just what the company desires most, the examiner is in a far better position to serve the insurance company and at the same time not do an injustice to the applicant. For this reason insurance companies want well-trained medical men who maintain their contact with the trend of modern medicine and surgery.

The introduction into life insurance medicine of more or less complicated laboratory procedure and tests has been of necessity rather slow, awaiting the development of newer technique and more portable equipment for taking the specimens. These have been gradually added, one at a time, among them being blood pressure apparatus kidney function tests, blood sugar tests and, the latest, the Kline precipitation tests for syphilis.

The value of the roentgen-ray fluoroscope has been well demonstrated in the examination of an applicant's heart and lungs. Many applicants with a past history of pulmonary tuberculosis can now be safely insured with a proper rating, provided their fluoroscopic examination is favorable. Too often the first suggestion that an examiner gets about an applicant's old tuberculosis is the screen picture, especially in a case where the past history has been concealed or denied. It is well known even by the laity that too often the stethoscope does not reveal the true condition of the lungs even in the most experienced specialist's hands.

In closing, it should be said that the medical examiner is employed by the medical staff of the home office and is responsible to them alone for his work.

The doctor should not be allowed to be dictated to by the field or agency force. In reality, then, he is a home office representative and his reports should never be influenced by any outside pressure in the organization. The reports he makes out are the property of the company he represents, but should be confidential, even duplicating the confidence as between doctor and patient.

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W. W. BECKETT, M. D. (Medical Director and Vice-President of the Pacific Mutual Life Insurance Company of California, Los Angeles).—Knowing Dr. Dabney of San Francisco as intimately as I have for the past several years, I am not surprised that he gives us such an excellent paper on life insurance examinations. I know of no one who is better qualified to write authoritatively on this topic than is Doctor Dabney.

Doctor Dabney has well said in his paper that history taking is often a difficult problem. It will greatly assist the medical director in evaluating the insurability of the risk if the examiner will elicit, without prejudice, a full personal and family history from the applicant. If there be any confidential information which may be brought out by questioning the applicant that the examiner feels should not be written into the medical report but which is important for the company to know, it should be reported by the examiner in a separate communication to the company's medical director.

The examiner should inquire more fully than is indicated by the questions in the medical blank regarding environment, habits, and the use of alcoholic beverages. It is more difficult at this time to ascertain the amount of alcoholic spirits an applicant consumes than it was during the "prohibition" period. I believe, however, that the great majority of applicants will answer truthfully as to their drink habits.

Answers to all questions should be complete. It is not sufficient to say that the applicant has defective vision in one eye. We should know definitely whether or not we would have a blind man for a risk if the applicant should lose the sight of his good eye.

Answers to questions should not be relative. To say that a goiter is small does not fully convey to the medical director the size of the enlargement. "Small" might mean to the examiner what would be considered a very different size by the medical director. One of our most competent examiners once reported that a certain applicant had a small goiter which, upon examination in his presence, I found to be what I considered quite an enlargement of the gland.

After completing his medical blank the examiner should carefully inquire into any other condition which in his mind might in any way affect the insurability of the applicant. He holds a very vital position with the company, especially in evaluating disability insurance. Actuarial tables cannot accurately guide us in the selection of disability risks. This is distinctly a medical problem. It is necessary to weed out the neurotic and unstable individual who is applying for disability benefits, although he may be a good life insurance risk. An applicant who has regular "check-ups" usually does so because he has some real or imaginary trouble. Full details should be given in all of these cases as to the reason for these periodic examinations.

The importance of a close inspection of the applicant should not be overlooked; his general appearance as to complexion, gait, manner, and premature age, all of which may indicate much to the medical director.

The examiner should at all times realize that every case approved by an insurance company is an investment and much depends upon his report as to whether the risk will be profitable or unprofitable. He should also realize that the medical director only sees the risk through his report.

It is not necessary for me to make further comment regarding the physical examination, as Doctor Dabney has covered that feature of his paper so completely.

GALL-BLADDER AND DUCT DISEASES*

By HARLAN SHOEMAKER, M. D.
Los Angeles

DISCUSSION by Charles Eaton Phillips, M. D., Los Angeles; James L. Busby, M. D., Pasadena; Stanley H. Mentzer, M. D., San Francisco.

THE following is an analysis of 274 operations done for acute or chronic gall-bladder disease by thirty-two staff surgeons at the Los Angeles General County Hospital, Unit One, during the years 1929, 1930, and 1931. There were thirty-seven deaths. These 274 operations were performed by thirty-two surgeons on patients selected from 1186 admitted for acute or chronic cholecystitis. I shall present these case reports to you in three groups as follows: uncomplicated cases; complicated cases; errors in diagnosis. Then I shall break down the mortality statistics into a more simplified form. In my summary I shall suggest an analysis of the study of these cases with some remarks on the simpler functions of the liver.

UNCOMPLICATED CASES

Of the 237 cases in which no mortality occurred, 57 were male patients and 180 female. Following is a summary showing the number of patients and the decade of each sex.

Males—57	Females—180
Between 20 and 30..... 6	Between 20 and 30..... 36
Between 30 and 40..... 9	Between 30 and 40..... 63
Between 40 and 50..... 10	Between 40 and 50..... 40
Between 50 and 60..... 18	Between 50 and 60..... 31
Between 60 and 70..... 12	Between 60 and 70..... 10
Between 70 and 80..... 2	
	57
	180

These age periods are quite comparable to those for similar statistics from any clinic. Women are afflicted with gall-bladder disease twenty years earlier than men, with a ratio of involvement three and one-half times that of men.

Twenty-eight of the 180 women had never been pregnant. The remaining 150 had an average of five pregnancies each. This, too, is quite in keeping with what has been ascertained from the gall-bladder statistics throughout the large clinics of the country.

In the analysis of these 237 operations the constitutional symptoms were not very marked. Only one-third had a temperature that was of any moment. The duration of pain ranged from a few hours to thirty years. You will at once realize some of the difficulties that are encountered in abstracting histories when one attempts to analyze pain of thirty years' duration, and separate it from all possibilities of any intercurrent infection that might have happened during that time. Jaundice either accompanied or preceded the attacks of 89 of the 237 cases. A great many of these histories, however, were very indefinite as to the presence or absence of jaundice.

* Read before the General Surgery Section of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

The icterus index was taken on 73 of the 237 patients, and was positive in the following ratio, serum bilirubin present:

	Patients
Index less than 10	16
Index 10 to 20	22
Index more than 20	35

X-ray pictures were taken on 133 patients out of the 237. These plates showed gall-bladder pathology or stones in ninety-four patients. There were eleven who gave positive Wassermanns, and three gave a suspicious reaction in this series.

The anesthetic of choice was ether, and was given alone 182 times; ether and gas were given thirteen times; local anesthesia and gas twice; sodium amytal and gas were given once; sodium amytal and ether nine times; sodium amytal, gas, and ether once; spinal novocain in twenty-seven patients; spinal novocain and ether once; and spinal novocain and amytal once.

Preference of anesthetics is reflected by the year in which choice was made. In 1929, no spinal anesthesia or amytal was given. In 1930, sodium amytal in conjunction with ether and gas was used seven times; spinal novocain was used but once; whereas in 1931, spinal anesthetic was used twenty-seven times; sodium amytal and ether, four times; sodium amytal and spinal, once; spinal and ether, once; and local, novocain and nitrous oxid once.

There were 202 cholecystectomies done, and thirty-three cholecystostomies. Additional operations performed at the same time, almost exclusively with the cholecystectomies, were:

66 appendectomies
3 posterior gastro-enterostomies
1 cholecystoduodenostomy
1 partial gastrectomy
2 perineorrhaphies
1 hernia repair
1 removal of umbilical hernia
1 cervix cauterization
1 ligation of tubes

The average bed stay in the hospital was approximately twenty-one days. For the most part, recoveries were uneventful, with the exception of a few patients who had a stormy convalescence, one remaining in the hospital eighty days following his operation.

Follow-up letters were sent to these patients several months after they left the hospital, and the end-results were reported as follows:

No reports from sixty-eight patients.

Successful operation reported by 119 patients.

Operation not entirely successful reported by forty-one patients.

Postoperative symptoms in eight patients.

Metastatic malignancy in one patient who had had a cholecystoduodenostomy. This patient had not succumbed to his disease at the time these statistics were compiled.

Some of the unusual occurrences in this uncomplicated series was the presence of a rather pronounced leukocytosis, running 16,000 to 25,000 in patients in whom the temperature was normal and in whom there was no jaundice. Of the 237

patients without mortality recorded, there were 154 patients with temperature reading, a white blood count, and report of pathologic findings. These 154 patients exhibited pathologic changes showing either a chronic gall-bladder or a chronic gall-bladder with stones. One hundred and seven of these patients were afebrile upon admission and forty-seven of the afebrile patients exhibited leukocytosis ranging from 10,000 to 25,000; one was as high as 30,000. There were sixty-one patients who had no leukocytosis.

In contrast with the afebrile cases, those patients reported with a temperature ranging from 100 degrees and up, thirty-four patients showed a leukocyte count up to 30,000, and twelve showed no leukocytosis at all. The evaluation of the leukocytic count in gall-bladder disease in this series of cases is a little more than 40 per cent positive with temperature under 99 degrees, and 60 per cent positive with temperature over 100 degrees.

Presence of bilirubin in the blood serum was noted in only seventy-three patients in the serum of 237 operations. Although the presence of bilirubin has some bearing on the end-results, on the function of the liver, and a high icterus index, and on the possibility that the patient may not tolerate an operation well, we are of the opinion that the cases recorded are too few to permit accurate statement that the presence of bilirubin is of any prognostic importance in determining the operability of the patient.

The location of the pain was quite consistently given as in the right upper quadrant. Failure to accurately describe the type of pain, its character and location, and the constant use of the initials "R. U. Q." leads one to the impression that a bad habit may have been formed by the use of these letters, rather than an accurate description of their real meaning. The same might be said of the term "chronic cholecystitis." This term was used so frequently throughout this series of cases that it actually appeared as the sole cause of death in one of the fatal cases.

Stones in the gall-bladder were present in 144 patients, and were found in the common duct in six patients.

Nonprotein nitrogen taken in twenty-eight patients varied from 20 to 44. As there was no mortality among these 237 patients, the effects of the estimated nonprotein nitrogen on the after-results cannot be ascertained.

COMPLICATED CASES

There were thirty-seven cases in which death finally ensued. They were associated with clinical symptoms of deep jaundice, great pain, and occasionally the presence of tumor. Six of these proved to be malignant. There were twenty males and seventeen females, and their age periods were as follows:

Males—20	Females—17
Between 20 and 30 yrs.....0	Between 20 and 30 yrs.....1
Between 30 and 40 yrs.....2	Between 30 and 40 yrs.....3
Between 40 and 50 yrs.....5	Between 40 and 50 yrs.....2
Between 50 and 60 yrs.....6	Between 50 and 60 yrs.....5
Between 60 and 70 yrs.....5	Between 60 and 70 yrs.....4
Between 70 and 80 yrs.....2	Between 70 and 80 yrs.....2

For the most part, these patients were acutely ill on admission to the hospital, and some ran very high temperatures. Jaundice was present in twenty-one patients, and absent in sixteen. The Wassermann was positive in one patient, negative in thirty, and was not stated in six. Duration of the disease ranged from one day to thirty years. One patient was demented; and the historian was unable to ascertain the duration of the disease. The pain in most instances was localized in the right upper quadrant, radiating to the back, and frequently all over the abdomen.

One proved to be a spirochetal infectious jaundice, which Dr. Howard A. Ball states was undoubtedly a case of Weil's disease, and is one of a dozen or so proved to have originated in North America. The patient had worked in an old-rag factory. The leptospira is a type of spirochete that is frequently found in the blood of rats.

Laboratory findings showed the presence of bilirubin in the blood serum to be:

1 to 10 in one patient
10 to 20 in five patients
20 to 30 in three patients
30 to 40 in two patients
40 to 100 in one patient
Over 100 in three patients

X-rays were taken in fifteen of the thirty-seven patients, and were positive for stones or gall-bladder pathology in seven, and negative in eight.

An estimate of the nonprotein nitrogen was made in twelve of the thirty-seven patients in this group. In six patients the nonprotein nitrogen was normal, and in six it ranged from 55 to 200. The latter and highest reading was about the only symptom present in the patient. The Van den Bergh test was done fourteen times; was direct once; direct positive fourteen times, and indirect positive thirteen times. It is suggestive that only in one instance was this reaction diagnostic for the obstruction of the bile duct. It could hardly be deduced from these results that the test was worth the time and trouble necessary to make it.

With regard to anesthetics: Ether was used for twenty-five patients; spinal for three; local for two; local and spinal for one; ethelene for one; nitrous oxid gas for three; amytal and nitrous oxid gas for one; and paravertebral for one. The ethelene gas was used as anesthetic upon a patient who was seventy-eight years of age. He presented a large tumor in the region of the gall-bladder and was in such precarious condition that operation seemed possible only under a very light anesthetic. Ethelene gas is not used in the General Hospital except in the obstetrical department, so the operation was performed in that department much to the consternation of the obstetricians, who apparently anticipated that a whole series of septic labors would follow the operation, as a stone had perforated the gall-bladder. The patient survived the operation, and gained nine and one-half pounds in weight. He left the hospital on the sixteenth postoperative day, only to return four months later and die with a malignant involvement of the head of the pancreas. This metastasis

was most unusual, the tendency being to metastasize to the liver from a carcinomatous infection of the gall-bladder, rather than to the pancreas. The autopsy demonstrated a malignant cyst in the head of the pancreas. This patient might have made as good recovery from any other type of anesthesia, but it is my impression that he did very well with ethelene.

The pathology that existed in these thirty-seven cases was most varied. Two patients died of acute ulcerative cholecystitis; one of appendicitis; two of abscesses of the liver. (Both with abscess of the liver had stones in the gall-bladder.) One died from a biliary fistula; two of chronic cholecystitis.

The case of biliary fistula was a most interesting one, and illustrated a type of case that Dr. Waltmann Walters has discussed at length in several papers. The patient drained bile externally, but the entire surface of the liver from its dome to the subhepatic fossa was laked with bile. These bile lakes did not drain one into the other, but were walled off with barriers of lymph. The patient showed a marked tendency to lose weight, due apparently to his inability to digest food or any desire to take food. With the loss of weight and strength, the patient eventually succumbed to a secondary anemia, simulating a pernicious anemia. Although this particular type is quite rare, an interesting point is the long postoperative morbidity. Walters reports that some of these biliary fistulae have drained for a year before that little spark of resistance that leads to the restoration of health restored the patient to health.

The diagnosis "chronic cholecystitis" and "chololithiasis," I consider very vague, as twenty of the thirty-seven patients had stones, and any or all of them could be said to have been affected with chronic cholecystitis.

Cirrhosis of the liver is given as the cause of death in one instance. This patient ultimately expired with a cerebral accident.

There was carcinoma of the gall-bladder in two cases, and carcinoma of the head of the pancreas in four. Dilatation of the stomach was given as a cause of death, and gangrene of the gall-bladder in two patients, one of whom was complicated by a thrombosis of the popliteal artery.

Empyema of the gall-bladder is given as the cause of death in four cases, and intestinal obstruction in one. This patient had been previously operated on for volvulus and had been relieved of the obstruction. During the second attack of the volvulus nine months later, the operator, unfortunately for the statistics, attacked the hydrops of the gall-bladder. The patient expired with intestinal obstruction due to a recurrence of a volvulus of the colon.

Myocarditis was a contributing and the terminal reaction in six of these patients. Obesity and pregnancy in one, and pneumonia in eight, toxemia in two, uremia in one, and ileus in one. Syphilis was a contributing factor in one death.

There were nineteen cholecystectomies performed; eighteen cholecystostomies. With the

cholecystectomies, the following operations were performed:

- 1 resection of the liver
- 4 appendectomies
- 4 stones in the common duct, removed
- 1 volvulus
- 1 gastric ulcer operation
- 4 cholecystoduodenostomies
- 1 gastro-enterostomy
- 2 drainage of abscessed liver
- 1 kidney stone (nephrolithiasis)

Again I note that no additional surgery was attempted when a simple drainage was done.

ERRORS IN DIAGNOSIS

Autopsies were done in twelve of thirty-seven mortalities. These autopsies revealed that a stone in the common duct had been overlooked, which statistics from the various clinics show to be the cause of five per cent of the postoperative deaths, but in this series there was but one such occurrence.

There was a four months' pregnancy associated with a bilateral pyelonephritis in which a urinalysis prior to the operation showed no pus. The postoperative course was exceedingly stormy, and death most probably occurred from the toxemia of the pregnancy. This patient was twenty-six years of age.

Autopsy also revealed a case of Weil's disease (which I mentioned earlier in this paper), a leptospira type of spirochetal infection of the liver. There was complete adhesion of the gall-bladder to all the surrounding tissue. On account of the poor condition of the patient an empyema of the gall-bladder was drained.

Gall-bladder surgery in the case of a demented patient was not successful in this series. It is my impression that thyroid surgery is much more successful in this type of patient; there is always the possibility of a cure.

In the thirty-seven operations in this series there were no adhesions in fourteen cases, giving the operator a fair field in which to work. In twenty-three of the cases the adhesions varied in density from a filmy exudate to the most organized indurations. In one case in particular, the fundus of the gall-bladder had adhered to the costal margin of the rib, and the respiratory rhythm had all but dragged the gall-bladder out of its fossa.

As to the preoperative course: sixteen of these patients were hospitalized one week or more prior to operation, and twenty-one for slightly less than seven days.

As to the postoperative course: twenty-four lived more than one week, while thirteen lived less than seven days. Of the twenty-four that lived more than one week, eight lived two weeks; three, three weeks; five lived four weeks; five lived five weeks, and three lived four months. The last mentioned were all patients with carcinoma, carcinoma of the pancreas and gall-bladder.

COMMENT

The writer appreciates that this series of cases (both the 237 that comprise the uncomplicated

group and the thirty-seven that comprise the mortality series) does not furnish a complete study of most of these patients. Study of the liver function tests have not been completed in many of these cases. Statistics do not exist that might make a comparison of the function of the pancreas and the liver of some moment. In the entire series the sugar-tolerance test was done only twice. The series shows death resulting from carcinoma of the pancreas four times. Whether a carcinoma of the head of the pancreas would alter the sugar tolerance of the human body, I am unable to state.

In one patient some eighteen separate laboratory procedures were done prior to her fourth operation. This patient was very obese. She was operated upon for appendicitis. There followed an incisional hernia. The patient reentered the hospital, and the incisional hernia was repaired. Pain and discomfort were not relieved. The patient was then sent to the metabolic clinic, as she was five feet two inches tall and weighed 235 pounds. After five months of treatment in the metabolic clinic, the patient weighed 265 pounds. Her gall-bladder was drained. The wound healed and she was discharged, only to reenter the hospital the fourth time. A cholecystectomy was done, and the patient died on the third postoperative day. The cause of death was a dynamic ileus, proved by autopsy. The patient was so stout that this diagnosis could not have been made by any other means.

No alibi need be offered for the cause of death in this group of thirty-seven, nor for inability to classify them other than as individual cases. The laboratory findings and technique have not been so satisfactory as has clinical experience, nor so great an aid in deciding when these cases should be attacked surgically or when they should be treated expectantly until a more favorable time for operation should be reached.

You will recall that sixteen of the thirty-seven were in the hospital for one week or more before operative procedures were attempted. On the other hand, of the twenty-one that were in the hospital less than seven days, the question uppermost in the operator's mind must have been: Is this a ruptured gall-bladder with peritonitis? Being unable to determine that question by any means save operation, one is not surprised that a great many of these cases were operated upon immediately following their admission at the hospital. The ultimate result as to the time of death following the operation, whether patients were in the hospital for a week or for a day, was about equal. You will recall that thirteen lived less than seven days and twenty-four lived from seven days to four months.

However, in a series of cases in which the pathology was not so evident it would be of great satisfaction indeed to test some of the functions of the liver in relation to the pathologic process at hand. Of the multitudinous functions of the liver, we might single out four of the most important: first, storage of glycogen, to protect the level

of blood sugar; second, the faculty of deamminating the amino-acids, converting them into urea and creatinin; third, the power to destroy the uric acid; and fourth, the function of excretion of bile and bile pigment. Therefore, if we had (prior to our operation and in conjunction with our x-rays and any dye tests available) a sugar-tolerance test and a nonprotein nitrogen test, and a test to ascertain the bilirubin in the blood serum in a series of 274 cases with thirty-seven deaths, some conclusions might be drawn as to the relative merits or demerits of these laboratory procedures.

SUMMARY

No attempt has been made to criticize any of the procedures in this series of cases. Thirty-two surgeons have operated upon 274 cases with thirty-seven deaths. It is true, therefore, that 237 patients were discharged from the hospital, as previously mentioned in the paper. These facts have been presented so that surgeons might draw their own conclusions as to whether the patient should choose an early operation with a low percentage of mortality, or should wait until a later age period when time and stress have converted the pathologic condition into one that is nearly inoperable.

1930 Wilshire Boulevard.

DISCUSSION

CHARLES EATON PHILLIPS, M. D. (706 Pacific Mutual Building, Los Angeles).—A review of 274 operations for the relief of diseases of the gall-bladder and bile ducts brings out many points of interest. A comprehensive knowledge of results is essential to the best work. This must include a familiarity with the successful but critical study of the failures. To show the value of statistical studies, in 1923 I presented a paper before a meeting of the American College of Surgeons on the subject, "Statistical Studies and Medical Efficiency." It was brought out in that paper that in appendicitis in the vomiting state there is an average mortality rate of over 15 per cent, while in the hands of competent surgeons the mortality rate does not exceed one and one-half per cent. This shows a needless loss of life of over 13 per cent in appendicitis alone. While the exact figures are not available, the discrepancy in mortality rate between average and good operators in gall-bladder surgery is greater. Doctor Willis of Richmond showed us that the mortality in appendicitis had increased 31 per cent, while the mortality rate in gall-bladder surgery had increased 77 per cent during the same time. This condition has come about because neither the patient nor the doctor knows the risk that is being taken.

The author's classification into complicated and uncomplicated is novel. It might have been clearer and to the same effect if he had classified them into (a) "those that lived" and (b) "those that died." It is too much to ask us to believe that all the good risks recovered and that all the complicated cases died. If such is really the case, we should not operate on complicated cases.

The paper brings out the information that multiple operations are hazardous. It is more than a coincidence that of the nineteen cholecystectomy patients who died, all had had additional operations performed at the time the gall-bladders were taken out.

Again we are struck by the relative worthlessness of the icteric index. The roentgen ray helped but little in a diagnostic or prognostic way. The leukocyte count as well as the blood chemistries were of little value.

The paper brings home to us the relative insufficiency of many of our most valued signs and laboratory tests.

In conclusion, we are struck by the idea that operations on the gall-bladder and bile ducts present one of the most difficult fields of surgery. The increasing mortality rate shows it is becoming more and more invaded by the occasional and incompetent operator. A study of this paper has brought home to us in a forcible manner the difficulties and dangers of surgery of the gall-bladder and ducts. It has shown us the fallacy of our favorite tests. It has shown that the multiple operations performed at the time of gall-bladder and bile duct surgery should be relegated to a place still lower than that occupied by the shotgun prescription because its results are far more deadly. We are deeply indebted to Doctor Shoemaker for this review. Its careful study should make us better surgeons.

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JAMES L. BUSBY, M. D. (595 East Colorado Street, Pasadena).—Doctor Shoemaker is to be commended for his clear and unbiased presentation of this group of cases. It emphasizes the importance of every study possible to determine the functional status of the liver and, in jaundiced cases, the kidney. Unfortunately we have at our disposal very few conclusive tests for liver function.

It has been our experience, however, that in jaundiced cases the determination of the serum bilirubin has been of distinct value in the selection of the proper time for surgery. A rising curve of serum bilirubin would suggest immediate surgery. However, a falling curve would tempt one to delay surgery until the patient becomes a better operative risk.

Snell has pointed out that an acutely jaundiced experimental animal is far more vulnerable than one in which jaundice has extended for some period. However, one cannot delay to the point of extensive liver damage.

Probably the three major complications affecting successful surgery are: (1) hepatic insufficiency; (2) renal insufficiency; and (3) hemorrhage. The first two, and possibly the third, are best combated by the free use of glucose intravenously.

Hirshfelder has also recently shown the value of concentrated glucose solutions in the elevation of the blood calcium levels and the reduction in the coagulation time. These studies, supported by the experimental work of Mann and Bollman in partially dehydrated animals, would lead to the conclusion that glucose probably is one of the most valuable preoperative and postoperative medical aids to the patient with complicated cholecystic disease.

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STANLEY H. MENTZER, M. D. (450 Sutter Street, San Francisco).—Doctor Shoemaker has presented a very interesting summary of a large series of patients operated upon for gall-bladder disease. His paper offers many opportunities for discussion of the pertinent data. I am particularly interested, however, in the instances of acute cholecystitis, for Doctor Shoemaker's paper verifies the facts which I have elicited from a study of forty-three patients who had perforations, gangrenes, or advanced acute empyemata of the gall-bladder clinically unrecognized.

It will be noted that Doctor Shoemaker presents an operative mortality of 13.5 per cent. When interpreted in terms of pathology, it is evident that the mortality in uncomplicated cases has been virtually nil. However, advanced pathology increased the operative mortality greatly. Therefore, statistical studies for the purpose of evaluating mortality figures should be presented only in terms of the stage and type of the cholecystic disease.

Doctor Shoemaker has noted a leukocytosis from sixteen to twenty-five thousand in patients with normal temperatures, while other patients with advanced lesions had normal leukocyte counts. Some patients had a moderately high temperature with a normal

white count. From these records and from the variations in the histories and physical findings, the author states that he was unable to determine clinically whether the gall-bladder had ruptured or not in sixteen cases. This has been my own experience also, for in forty-three advanced acute gall-bladder lesions, perforation occurred four times, gangrene once, and advanced acute empyema in four instances without recognition by the medical attendant. Moreover, surgeons awaiting subsidence and localization of inflammation in many acute cases were unable to determine when perforation had occurred instead.

Studies of this sort compel physicians to resort to earlier surgery in the future in order to avoid the serious complications of delayed surgery with its inevitably high mortality. This fact is emphasized by Doctor Shoemaker and warrants the most careful consideration by our medical confrères.

ECZEMA—PRESENT DAY CONCEPTS*

By ERNEST DWIGHT CHIPMAN, M. D.
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DISCUSSION by Howard Morrow, M. D., San Francisco; H. J. Templeton, M. D., Oakland; Kendal Frost, M. D., Los Angeles.

IT is interesting to observe that since the first mention of eczema in dermatologic writings the idea of predisposition has almost constantly appeared.

Rayer and Devergie thought of eczema as a chronic dermatosis dependent upon some unknown predisposition. For Hardy this predisposition was the expression of a diathesis. According to Hebra, eczema occurred because of a vulnerability or pre-existing diseased state. Unna attempted to include all eczemas under the single title "microbic."

In his earlier writings Brocq differentiated between the "true" and the "complex" eczemas, but in his *Traité*, published in 1907, he included both of these under the title "Cutaneous Reactions." This was a definite step forward.

As a text for our discussion of present-day concepts of eczemas let us take the following observation of Darier:¹ "If one presents to a dermatologist an eruption, or better still, a good histologic section, he will not hesitate to state whether or not it is a case of eczema. If on the contrary one asks him of what eczema consists and in what manner the manifestations which characterize it are born, one will have opened the door to a dissertation full of discriminations and reservations."

DEFINITION OF ECZEMA

This brings squarely before us the question of a definition and leads to a discussion of the etiology and pathogenesis of eczema. Probably the greatest source of confusion is the fact that many writers start with differing premises. It will clarify any discussion of eczema to be in agreement as to a definition.

Just a quarter of a century ago Brocq² defined eczema as follows: "We designate under the name 'eczema,' an inflammatory dermatosis objectively characterized: (1) by redness, which sometimes

is entirely wanting at the outset; (2) especially by a vesiculation of special aspect, more or less accentuated, the vesicles nearly always clearly perceptible, well formed, of the average size of the head of a needle, more rarely the size of a pin-head, sometimes less well developed and then appreciable because of the appearance of a fine round crust; (3) often, but not always, by an effusion of yellowish serum which is sticky to the touch and which has the property of staining linen; (4) and according to the degree of the inflammatory reaction and exudation, by consecutive scales and crusts."

A decade ago Highman³ contributed the following: "Eczema is a catarrh of the skin possessing the pathologic characteristics of an exudative inflammation. It is characterized clinically by redness, swelling, the presence of papules, vesicles, pustules, weeping, crusting and scaling in various combinations. In its course it may be acute, subacute, chronic; and its origin depends upon an interplay between various known and unknown local and predisposing causes to which the skin lesions are reactions."

In a recent article Stokes⁴ declares: "The day should now be passing . . . when one can feel that all reasonable demands have been satisfied by a mere description of appearances, without reference to what Clark Maxwell called the 'particular go' of the phenomenon." He then defines eczema as "a persistent dermatitis in which the predisposing causes or background outweigh the immediate causes." He chooses this in preference to a widely held German view that "Eczema is a form of dermatitis which results from an intrinsic quality of hypersensitivity in the epidermis itself." The use of this definition by Stokes is "based on the view that all inflammations of the skin exhibit a complex rather than a simple etiology."

Possibly one should not feel that mere description of appearances is enough, but one may reasonably require some semblance of a picture of a process as a basis for its discussion. The expression "a persistent dermatitis in which the predisposing causes or background outweigh the immediate causes" will fit dermatitis herpetiformis as well as eczema. The definition omits all mention of spongiosis, vesiculation, or the essential elements which make up the picture of eczema as commonly contemplated. It seems to project the discussion at once into the realm of etiology and pathogenesis without making us at all sure that we are on common ground.

Nevertheless Stokes has presented in particularly satisfying form an etiologic analysis which helps in the formation of a concept to which reference will presently be made.

DERMATITIS AND ECZEMA

For many, apparently, any dermatitis is an eczema. Now, while every eczema is a dermatitis there are still many who believe that not every dermatitis is an eczema. Jadassohn,⁵ for example, asserts that if one wishes to maintain a concept eczema it is necessary to discard the microbic and

* Read before the Dermatology and Syphilology Section of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

mycotic forms as well as the so-called seborrheic eczema and neurodermatitis. Darier apparently regards neurodermatitis as an eczema. In this connection Pusey⁶ states that "while we all agree that eczema and dermatitis are identical . . . we are still influenced by tenacious, if unconscious, reservations that eczema is set apart from dermatitis by certain characteristics, however intangible."

There are some who differentiate sharply between artificial dermatitis and eczema of internal origin. Both Brocq of the French school and Oppenheim of Vienna have enumerated clinical differences such, for example, as the size of the vesicles. Bruno Bloch,⁷ on the other hand, maintains that there is not a single objective sign which justifies such a division and cites experimental sensitization to the primrose of normal persons who have never suffered from eczema or any metabolic disturbance.

Darier⁸ would retain the name "eczema" for those cases of prolonged evolution and unknown but probably internal cause. For him eczema is a "process" which he terms a "reaction of intolerance," taking the stand that the simple term "reaction" represents what may result in anybody regardless of predisposition; that it may be of toxic origin, in which case the reaction is proportionate to the dosage; while the term "reaction of intolerance" connotes a quality in virtue of which an individual will react to substances which in normal subjects will do no harm.

Sabouraud⁹ contends that all the forms of dermatitis of which we know the cause should be named by the cause and separated from eczema. When we know all, there will be no eczema. He defines eczema as "all the vesicular and oozing epidermitis of unknown cause." Probably this is the concept best calculated to bring order out of confusion and corresponds most closely to what has been the general American view for some years.

ETIOLOGY AND PATHOGENESIS

When we approach the question of etiology and pathogenesis we find several distinct viewpoints. On the one hand is a group which believes that the essential etiologic factor lies in the intimate reactions of the epidermis itself. This group tends to make all eczemas allergic in nature. Others hold the opinion, emphasized by Stokes, that all inflammations of the skin exhibit a complex rather than a simple etiology. For Stokes dermatitis is the result of an interplay of various factors running the gamut of dry skin, oily skin, vulnerability through familial trait, pyogenic, mycotic, allergic, neurotic, metabolic, and diathetic factors and the influence of focal infection.

Bruno Bloch¹⁰ decries the attempt to make eczema the result of metabolic disturbance. He says: "The theoretical basis from which this point of view developed, namely, the old doctrine of the Middle Ages concerning "dyscratic" conditions, has long since been abandoned as obsolete. . . . There is not the least evidence of the existence of a metabolic disturbance which is common to all or to many types of eczema and which is pathognomonic for this condition of the skin."

Milian¹¹ frankly avers that eczema is due primarily to alteration of the sympathetic nervous system and he sees no more reason to call the exciting causes antigens than to call the pneumococcus of pneumonia an antigen even though it serves to manufacture the antibodies which bring about the cure.

If there is, however, one definite trend in present-day consideration of eczema, it is to consider the reaction allergic in nature.

Pusey¹² apparently believes that the pathologic X has been found in the phenomenon of allergy, but he realizes that it is not known just what happens in the body as a whole or in the skin itself to cause the allergic state in one out of many individuals.

Gray¹³ of London thinks the term "allergic eczema" does not advance matters much, for most authorities consider all eczematous reactions to be "allergic." He says: "We do not really know what happens when an irritant is applied to the skin; we know the histological changes produced, but we do not know what chemical and physical changes occur in the cells of the epidermis."

Darier¹⁴ states that since all dermatitis is allergic the use of the term "allergic dermatitis" is a pleonasm.

Klauder and Brown¹⁵ have produced experimental data to suggest that the autonomic nervous system is concerned in altering cutaneous irritability through a disturbance of the calcium-potassium ratio.

Rost¹⁶ attempts the dissociation of eczema into two groups. Those of external cause are called dermatitis and those of internal cause are called dermopathies. The latter are connected with such general conditions as scrofula, diabetes, nerve disorders, etc., and the lesions are called eczematoid. Darier objects to this point of view because, recognizing the complexity and habitual interplay of the causes of eczematous eruptions, the importance attributed to one or another is a matter of personal appreciation and cannot serve as a principle of classification.

The wide range of these etiologic factors would at first glance seem to make it impossible for one to formulate a concept to which all can subscribe. But many of the differences are perhaps more apparent than real. The situation may be clarified to some extent by granting that eczema is due either to trouble in the epidermis itself, or that it results from an interplay between various known local and predisposing causes, or both. In any case the precise mechanism of the process is undetermined. We have seen the cure of eczema following the removal of infectious foci, but we cannot say that there was not elaborated in these foci some substance to which the epidermis was sensitized. We have also seen eczema disappear upon the removal of adverse emotional factors. On the other hand, we have seen inflammatory reactions as a result of contact with substances which in in a large majority of individuals would cause no disturbance and in subjects in whom no metabolic, neurogenous or infectious factors were to

be found. Each holds a certain amount of truth. Stokes has reconciled the two views by his concept of a complex in which the intrinsic or allergic factor is recognized as one of a dozen etiologic elements.

SUMMARY

In this review of current opinion we find, as might be expected, both agreement and disagreement. Upon two points there is practical concord. First, eczema is to be regarded not as a disease but as a syndrome. Second, the *sine qua non* of eczema is a predisposition.

For the majority, this predisposition is a state of allergy, but there is an opposing opinion that would stress the general background rather than an intrinsic susceptibility of the epidermis.

Definitions of eczema show great differences in phraseology, but the opinion may be ventured that a majority of dermatologists will accept as a suitable working basis the simple statement of Sabouraud that eczema is an oozing or vesicular epidermatitis of unknown cause.

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DISCUSSION

HOWARD MORROW, M. D. (384 Post Street, San Francisco).—As time goes on we see fewer cases of eczema and more of diseases which were once classed as eczema. Vesicular dermatophytosis has removed a large percentage of cases from the old vesicular eczema group. The old type of eczema of the groins is nearly always caused by ringworm fungus. The "eczema" under the mammae in fat persons is caused by tinea or monilia or is a seborrheic. The term "eczema" should not be used for such cases. We still have the nummular or neurotic eczema of the extremities which usually clears under appropriate local treat-

ment. Flexural eczema or the prurigo of Besnier is the rebellious type which occasionally baffles the dermatologist and the endocrinologist. It is advisable to exclude the common skin diseases before advising skin tests for protein sensitization or starting treatment for an eczema, as many of these cases on careful examination turn out to be scabies or dermatophytosis.

¶

H. J. TEMPLETON, M. D. (3115 Webster Street, Oakland).—As Stokes has pointed out, eczema may be regarded as a reaction of the skin resulting from the interaction of noxious stimuli either endogenous or exogenous. The sum total of this interaction equals eczema. A threshold exists in all patients below which the sum total will produce no reaction; but when this threshold is exceeded eczema occurs. According to this concept it is easy to understand how a disturbance of the equilibrium by any such factor as focal infection, allergy, emotional upset or external irritants may precipitate an acute attack.

From the standpoint of industrial dermatology, Bloch's experiments are interesting. He sensitized guinea-pigs to primrose by rubbing the leaves onto their skins. After each resultant attack of dermatitis the skin would gradually return to normal. But with each repetition of the chemical insult the period of recovery would be slightly prolonged until a time would come when the eruption would persist, even though no more primrose were applied. Basing their opinions upon such experimental data, some dermatologists have considered the more acute eruptions which would disappear upon removal of the offending irritant as "dermatitis"; and have applied the term "eczema" to those resistant instances in which repeated applications of the irritant have so altered the reactive quality of the skin as to render it incapable of restoring itself to the normal after the irritant had been removed.

¶

KENDAL FROST, M. D. (1930 Wilshire Boulevard, Los Angeles).—Discussions of this character are most valuable. An occasional attempt to "take stock" helps to evaluate any subject and to relegate new aspects to their proper places in the conception of the whole. The term "allergy" has been used loosely, almost synonymously with "eczema." However, on close analysis it means the phenomena covered by the terms "idiosyncrasy," "hypersensitivity," and essentially "altered sensitivity," all of which were common to eczema, even before the term was coined. Research in biologic reactions has broadened our knowledge of this subject, but has not particularly changed the conception of eczema nor clarified it. It still remains, as Doctor Chipman points out, a syndrome and not a disease, in which usually multiple factors act and produce the clinical picture.

¶

DOCTOR CHIPMAN (Closing).—The essential factor in the production of eczema is an unknown quantity in virtue of which certain individuals react to influences which have no effect upon the majority of people. As Doctor Frost indicates, this is only another way of saying that there is an altered reaction or an allergic state. Whether we call it predisposition, a reaction of intolerance or hypersensitivity is of no special moment.

One may base a concept of eczema upon grounds of morphology, nosology, or biology. Few remain partisans of the morphologic concept. Stokes seems fundamentally a nosologist except that he includes the allergic factor along with an extended list of causes. The particular merit of this point of view is that it broadens the field of investigation and presupposes a detailed study of every case.

In favor of the purely biologic concept this much may be said. It offers the most inviting field for research and promises the most hope for ultimate solution of one of our many etiologic problems.

BISMUTH THERAPY IN SYPHILIS*

Dermatological and Medical Aspects

I

By HARRY E. ALDERSON, M. D.
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DISCUSSION by Merlin T-R. Maynard, M. D., San Jose; Chris R. Halloran, M. D., Los Angeles; H. J. Templeton, M. D., Oakland.

SECOND in value to arsphenamin in antiluetic therapy, bismuth has assumed great importance both in early and late syphilis. As it is more effective than mercury, it is available when for any reason arsphenamin cannot be administered. Fortunately all three of these drugs can be given to most patients. Iodin is still indispensable, but at the present time we place our main reliance upon arsphenamin, bismuth and mercury, alternating between them in our treatment of syphilis. We feel now that bismuth is indispensable.

The valuable antisyphilitic action of bismuth was first discovered in 1889 by Balzer and later by Sazerac and Levaditi, who observed the rapid destruction of spirochetes in experimental animals. Much work has been done since then. Bismuth not only destroys treponemata pallidae, but inhibits the activities of the organisms not reached by increasing the resistance of the patient. It is a comparatively safe remedy, having fewer and less serious untoward effects than arsphenamin or mercury. Frequently a blue line is seen along the gingival border. Sometimes a mild stomatitis will develop, but this is rarely severe. At times there is renal irritation. Occasionally an enterocolitis is experienced.

Various skin eruptions have been reported, but in view of recent experience some of these complications may be due to arsenic occurring as a contaminant in the bismuth. At the January meeting of the Dermatology and Syphilis Section of the New York Academy of Medicine, which I attended, a case of exfoliating dermatitis was shown where the patient had received only bismuth injections. In the discussion, A. Benson Cannon reported that recently he had found some of the widely used bismuth preparations contained appreciable amounts of arsenic. This throws a new light on some of the reported complications of bismuth therapy.

Several have observed that prophylactic injections have considerable effect in preventing infection of persons exposed to syphilis. Krulle quotes Sonnenberg,¹ who gave intramuscular injections once a week to sixty nonsyphilitic prostitutes for eighteen months. Only two became infected with syphilis and in both cases infection occurred before much bismuth had been given. Among fifty control cases not given bismuth, 40 per cent became infected (as compared with 3.3 per cent among the injected patients).

The number of bismuth preparations on the market is constantly increasing. A soluble preparation, now known as iodobismutol, has been developed by Hanzlik, Stanford University Medical School. It was tried out clinically in the neurological service of Doctor Mehrten and in the Skin and Syphilis Clinic, where I found that the treponemata disappeared from primary lesions very early and various types of syphilids responded favorably to its action. This preparation will be discussed more in detail by Hanzlik and Mehrten.

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II

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A LITTLE more than a decade has now elapsed since bismuth was introduced as an agent in the treatment of syphilis. Its acceptance was rapid and its present almost universal employment in the treatment of that disease is ample testimony of its efficacy. It shares honors with other standard remedies, and in the hands of many capable clinicians has to a large extent superseded mercury. It has inspired a large volume of literature, which is being continually augmented by statistical summaries and reports of new preparations. In view of these facts it would seem worth while to review briefly the available information regarding the clinical aspects of bismuth, and to add a few illustrative personal observations. These points will be discussed under the following headings: effect on the spirochete; effect on serological reactions; effect on clinical aspects of syphilis; toxic effects; therapeutic considerations.

EFFECT ON THE SPIROCHETE

Numerous experimental and clinical observations have proved conclusively that bismuth is highly spirochetocidal. Sazerac and Levaditi¹ introduced bismuth for the treatment of syphilis following successful sterilization of chancres in experimental syphilis in rabbits. They found that 400 milligrams per kilogram of body weight of sodium potassium tartrobismuthate injected intramuscularly was well tolerated. One-fourth of this amount was sufficient to cause a disappearance of spirochetes from the chancre in twenty-four hours, followed by healing of the lesion within two to four days. In nine cases of chancre reported by Pasini,² the darkfield became negative within twenty-four to forty-eight hours after one injection of sodium and potassium tartrobismuthate. Both Levaditi³ and Fournier have demonstrated by gland punctures that the regional lymph glands are rapidly sterilized of spirochetes by intragluteal injections of bismuth. Levaditi³ found that fat-soluble bismuth is even more rapid in its spirochetocidal effects than the insoluble preparations, and that one, or at most two, intramuscular injections are sufficient to cause destruction of the spirochetes in the chancre or mucous patch.

EFFECT ON SEROLOGICAL REACTIONS

Since very few physicians use bismuth exclusively in the treatment of syphilis, it is somewhat

* Read before the General Medicine Section of the California Medical Association at the sixty-first annual session, Pasadena, May 2-5, 1932.

¹ München. med. Wchnschr., 78:1554, 1931.

difficult to appraise its value in regard to the effect on the serological reactions. Schwartz⁴ has reported the results of treatment of more than five thousand syphilitic patients at Fournier's Clinic during the past ten years, in which bismuth was the only drug employed. Schwartz states that at first, when using the insoluble preparations of bismuth suspended in oil, the results, while not as rapid as with arsphenamin, were fully as efficacious, while the lipo-soluble bismuth preparations are as rapid in their action as arsphenamin and have a more constant and lasting serologic action. Schwartz adds that no case of bismuth resistance has been seen in the series, where bismuth alone was used, which is in striking contrast to the not infrequently observed arsenic resistance cases.

More specifically Fournier⁵ states that in a series of two hundred patients treated with lipo-soluble bismuth the Wassermann reaction usually became negative after the first course of treatment, and in those very exceptional cases in which it was still partially positive after the first course it became negative after a second course. A course consisted of ten to fifteen intramuscular injections of an oily solution containing five per cent of metallic bismuth, given twice a week.

Grund⁶ reported that in a series of seventy-five Wassermann-fast cases, all of whom had been treated with arsphenamin and mercury from one to seven years, 33 per cent became negative after fifteen injections of sodium and potassium tartrobismuthate in .2 gram doses; 60 per cent, however, were unaffected.

EFFECT ON THE CLINICAL ASPECTS OF SYPHILIS

The disappearance of syphilitic lesions under bismuth therapy parallels the destruction of the spirochete and the improvement in the serological reactions. Just as bismuth will sometimes change an arsenic-resistant Wassermann reaction from positive to negative, so it is also capable of causing the disappearance of arsenic-resistant lesions. The following brief case history is a good illustration of this phenomenon. It also contradicts the opinion frequently expressed that an attack of arsphenamin dermatitis exerts a favorable effect on the clinical course of a luetic infection.

REPORT OF CASE

Mrs. M. T., age twenty-five, apparently acquired a syphilitic infection from her husband about one month before the birth of her baby. An ulcer developed on the vulva which healed without treatment in a few weeks and was not followed by any recognized secondary eruption. Following delivery the patient developed what she termed "childbed fever" and was ill for several months. The first time that the patient became aware of a syphilitic process was when the baby began to feel sick and developed a scaling eruption of the palms and soles at the age of two months. The Wassermann test on both mother's and baby's blood was positive. The patient's physician began treatment with one of the arsphenamin preparations intravenously. After the sixth injection the patient noted an itching eruption, but was given another injection and promptly developed a generalized exfoliative dermatitis. The patient was then given rather inadequate doses of sodium thiosulphate by mouth and by vein, and the eruption gradually subsided.

About three months after the last injection of arsphenamin, which had precipitated the dermatitis, the patient came in because of falling hair and a new eruption which had developed. On this date, the arsenical eruption had entirely disappeared except for maceration and redness beneath the breasts, some scaling in the scalp and desquamation of the palms and soles. Superimposed on the remnants of the arsenical dermatitis of the palms and soles was a new eruption of scaling maculopapules. There were no lesions between the toes, and a microscopic examination of scales was negative for fungi.

There was also a typical pale pink nonsquamous macular eruption involving the entire body. The throat was red and sore and there was a generalized superficial lymphadenitis. The hair was very thin over most of the scalp; this may have been due to the arsenical dermatitis. A Kahn test of the blood was strongly positive.

The patient was given an oil soluble bismuth preparation intramuscularly, beginning with one-half the usual dose. The medication was well tolerated. After the fifth injection, or two and a half weeks after beginning bismuth therapy, a note was made to the effect that the rash on the body was practically gone and the feet were nearly well. At the completion of seventeen doses of bismuth and a rest of six weeks the Wassermann was still strongly positive. After further treatment, including six doses of mercury salicylate and six doses of oil-soluble bismuth, a Kahn test was two plus. The course was continued without interruption and after another twelve doses of bismuth, including oil soluble and salicylate, followed by a rest period of one month, the Kahn was negative. The patient is still under treatment with bismuth.

Numerous investigations have found bismuth equally effective in healing primary, secondary or tertiary lesions of syphilis. Bismuth is particularly useful in cardiovascular lesions, especially in the presence of aneurysm, because of the freedom from the danger of sudden and often fatal Herxheimer reactions.

Fournier⁵ mentions two patients who had old syphilitic lesions with a uniformly enlarged aorta who were greatly benefited by regular treatment with small doses of bismuth. Fournier has used bismuth exclusively for over ten years and feels that it is equally valuable in all stages of the disease. Schwartz and Levin⁷ report that "in secondary syphilis, bismuth therapy causes the disappearance of the local and general manifestations and reduces the Wassermann reaction. It does these more quickly and efficiently than mercury, and there is less possibility of a Herxheimer reaction or a neuroresidive than when arsenotherapy is employed. It has been used in the presence of jaundice, caused either by the disease or by arsenic, with success and without producing harm." Shivers⁸ concluded, from a study of fifty-seven patients with late manifestations, that bismuth is effective clinically in all forms of tertiary syphilis, and is superior to arsenic in some cases of neurosyphilis.

TOXIC EFFECTS

Very few serious accidents have been reported as the result of bismuth therapy. Local irritation at the site of injection in the form of a hard, tender lump is sometimes noted. Very rarely one of the lumps will break down and form a sterile abscess. Careful technique of injection will prevent some of these local reactions. The bismuth must be injected deeply into the gluteal muscles,

not into fat or into an artery or vein; the injection should be given slowly and the buttock gently massaged after the treatment. In spite of all precautions, however, some patients seem to have an idiosyncrasy to certain types of bismuth. The author has one patient who frequently develops painful nodules and, occasionally, high fever after injections of potassium bismuth tartrate, yet who tolerates bismuth salicylate perfectly.

A blue line on the gums occasionally develops, indicating an approaching saturation with bismuth. Serious cases of stomatitis such as are seen in patients under mercury treatment are seldom encountered, yet the appearance of "bismuth line" should serve as a warning not necessarily to stop treatment, but to reduce the dose or lengthen the interval between treatments. Scrupulous care of the teeth and gums will often prevent trouble.

Bismuth therapy should not be instituted immediately after the development of an arsphenamin dermatitis. If the dermatitis is not allowed to subside completely before the bismuth is given, there may be a reactivation of the arsphenamin dermatitis. While this does not always occur, as in the case reported above, such a possibility must be borne in mind, and is illustrated by the following excerpt from a case history.

REPORT OF CASE

Mr. H. T. had been treated by neoarsphenamin and bismuth for an esophageal gumma. After the ninth dose of neoarsphenamin a generalized exfoliative dermatitis developed with a great deal of edema, which on the feet developed into blebs. This gradually subsided under sodium thiosulphate. After nineteen doses of sodium thiosulphate, a note was made to the effect that the patient was much better and might return in about one month for observation. About seven weeks later the patient came in because of sudden pain in the left shoulder which interfered with raising the arm. The eruption had entirely disappeared. The Kahn test at this time was negative. The patient was given an intramuscular injection of an aqueous solution of bismuth. About five hours after the injection a recrudescence of the dermatitis appeared by itching, redness and swelling of the hands and feet, and a generalized erythematous rash.

In the light of some recent work which A. B. Cannon and Alderson have done, it is possible that this reaction may have been due to a small amount of arsenic which has been found to contaminate certain types of bismuth. Unfortunately the batch of bismuth from which this ampoule was taken was not tested for arsenic.

Vigne⁹ has recently published statistics on intolerance to bismuth observed during a period of five years at the Antivenereal Dispensary of The Hotel Dieu de Marseille. Of 2,396 patients who were treated by bismuth alone, 202, or approximately eight per cent, showed signs of intolerance, such as stomatitis, asthenia, abscesses, local intolerance, cutaneous eruptions, and various general symptoms. Stomatitis was responsible for more than half of the cases of intolerance, but was relatively benign and was never as severe as that observed with mercury.

According to Schröder,¹⁰ bismuth very seldom causes any kidney irritation, and in those cases where toxic effects are noted, the lesions are as a

rule relatively benign, seldom involving the glomeruli. Cases of severe damage to the kidneys from bismuth are exceedingly rare. Mercury in smaller doses causes considerably more severe lesions of the kidneys than bismuth. Schroder advocates the use of bismuth in cases of syphilitic nephrosis. Taralrud¹¹ notes a somewhat higher incidence of kidney irritation, but his cases were treated by combined courses of bismuth and arsenical preparations; even in his series, however, the lesions were benign.

Sudden death has been reported by Curtis¹² from the intravenous administration of a water-soluble bismuth preparation.

The appearance of any toxic manifestations calls for a cessation of treatment and the intravenous administration of sodium thiosulphate in one-gram doses two or three times a week. Sodium thiosulphate apparently combines with heavy metals, and causes their elimination.

THERAPEUTIC CONSIDERATIONS

Many forms of bismuth have been introduced and practically all of them are of value. It is difficult to state dogmatically which type of bismuth is preferable. The ultimate decision will rest upon far larger series of cases than are at present available. In general, the preparations divide themselves into three main groups: insoluble or suspensions in oil or water, fat soluble, and water soluble. Those who base their choice on the insoluble preparations advance the theory that because of the slow absorption, depots of bismuth are formed at the site of injection from which a gradual but prolonged absorption of the metal into the system takes place, and that by reason of this slow absorption over a prolonged period, a better therapeutic effect is obtained. Those who favor the water soluble preparations advocate giving the injections more frequently and claim that by reason of the rapid absorption a greater spirochetal effect is to be anticipated. Midway between these extremes stand those who regard the liposoluble preparations as combining the advantages of the other two types.

It is possible that more frequent injections of a water-soluble or oil-soluble preparation should be given in early acute cases, while the insoluble preparations should be reserved for chronic cases or for those patients who find it impossible to make frequent visits. Besides these indications, certain patients will be encountered who will tolerate one type of bismuth, whereas another type may cause unpleasant local or general reactions.

Bismuth should always be injected intramuscularly, never intravenously. It should be given in courses of ten to twenty injections once or twice a week, depending on the type of bismuth used. The urine should be examined frequently to detect any evidence of kidney irritation, and the gums should be watched for a bismuth line. A preliminary phenolsulphonephthalein kidney function test would be an additional safeguard.

During the past few years, a preparation known as "Bismarsen," or bismuth arsphenamin sulphate, has been introduced. It is a combination of bis-

muth with an arsphenamin type of arsenic, and is administered intramuscularly. Many promising reports of its efficacy have been published, but inasmuch as it depends partly upon an arsenic group for its results, it cannot properly be included in this report, which is an attempt to appraise the value of bismuth *per se*.

CONCLUSIONS

1. During the past ten years bismuth has been used widely, and in some clinics exclusively in the treatment of syphilis.

2. Reports from many quarters and based upon observations in many thousands of cases all confirm the value of bismuth in its rapid spirocheticidal effects, its ability to heal syphilitic lesions in all stages of the disease, its prompt effect on the serological reactions, and its relatively low toxicity.

3. Three main types of bismuth are available: the insoluble suspensions, the oil soluble and the water soluble. All three types have their special fields of usefulness.

2007 Wilshire Boulevard.

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DISCUSSION

MERLIN T-R. MAYNARD, M. D. (408 Medico-Dental Building, San Jose).—The papers presented have covered the subject in such a workman-like manner that I am embarrassed to find further remarks to apply as a discussion.

I believe that the general practitioner is today faced with a difficult and puzzling situation relative to the choice of bismuth preparations and the methods of their use. This situation is brought about through the plague of preparations with which the physician is being detailed. Usually he can obtain no accurate

knowledge of the chemical constituents and is supplied with a mass of unscientific statements regarding the efficacy of the product.

The reaction of the average practitioner is one of a distrust of the various preparations, and he is inclined to disregard bismuth and treat his patient with arsphenamin alone. I believe that it is the better part of wisdom to listen to none of the claims of the drug houses and use only the official preparations. The individual physician, of course, when he is using a preparation of known potency, is advised to continue with it unless the indications of the case require a change. In speaking of the bismuth resistance of spirochetes, I have seen only one such case and that was one of a young woman who was put on bismuth alone because of a sensitivity to arsenic. She was given arsenic in the early secondary stages of the disease, during which time the eruption disappeared. However, even though she had had ten injections of potassium-bismuth-tartrate she developed nodules of a very resistant type. I concur with Doctor Ayres in his statement that bismuth should not be given intravenously.

In the majority of intravenous preparations the minimum lethal dose is surprisingly close to the therapeutic dose. This fact alone should contraindicate its use.

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CHRIS R. HALLORAN, M. D. (1052 West Sixth Street, Los Angeles).—When bismuth first came into use in the treatment of syphilis it was accepted with enthusiasm, especially because of the fact that it opened a new angle of attack upon the obstinate case. The favorable results obtained by its use in Wassermann-fast and relapsing infections soon stimulated interest in the use of the drug in early syphilis. The literature has recently been growing more and more voluminous with articles in the praise of the drug; so much so that we may be led to an enthusiasm for its use that later observations may prove unwarranted.

There are ample reports that seem to prove conclusively that bismuth, though an inferior spirilicide to the arsphenamins, is superior to mercury. As a resistance-building drug, bismuth has been proved an equal to mercury. It also apparently has an added advantage over the latter drug in that it produces less irritation to the kidney, and evidences of intolerance are met with much less frequently. However, when we consider that in the treatment of syphilis the value of any remedy must be determined by freedom from clinical manifestations of the disease and a negative serology, not only for the span of a few years but for the remainder of the life of the patient, we realize that the time has not yet arrived for a final evaluation of the curative power of bismuth. We are now seeing occasional cases of relapse and neuro-recurrence wherein it is quite possible that too much dependence has been placed upon bismuth to the relative exclusion of other drugs.

Granted that syphilis is a disease in which relapse is inevitable in a proportion of cases irrespective of therapy, the late manifestations of the disease are usually the result of failure of early diagnosis and lack of rigid adherence to a carefully formulated plan of treatment rather than inadequacy of the drugs used. Our present knowledge would seem to indicate that our chief reliance in the treatment of syphilis is to be placed in uninterrupted courses of treatment throughout the first year, in which too much dependence is put upon no one drug. The most adequate plan of therapy seems to be one in which the patient is placed upon one of the arsphenamins in combination with bismuth or mercury. It seems wise at present to alternate the courses of the latter two drugs. At the same time the patient is receiving his course of bismuth or mercury, he should be given potassium iodid by mouth.

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H. J. TEMPLETON, M. D. (3115 Webster Street, Oakland).—The authors have covered the subject so thoroughly that I can add only some personal observations. Several years ago, along with Thomson

and Rix,¹ I studied the absorption rate of practically all of the bismuth compounds that were then available on the American market. The results of this study caused me to discontinue the use of several compounds which were so slowly absorbed as to render them, in my opinion, of very doubtful value.

As to the practical therapeutic effectiveness of bismuth, I can say that I have repeatedly seen destructive tertiary lesions of the skin disappear rapidly under the use of bismuth without iodids. I can recall one spectacular series of cases in which the value of bismuth in Wassermann-arsphenamin-fast cases was demonstrated. A group of ten children and infants with congenital syphilis had been treated over a period of many months with repeated courses of the arsphenamins alone. Their Wassermann reactions all remained positive. They were then given from ten to twenty injections of a bismuth compound whose value had been well established. In every instance the serology became negative. I realize that I will probably never again obtain such striking results in a series of "fast" cases.

Milian has stated that the relative therapeutic value of arsphenamin, bismuth, and mercury might be roughly evaluated in the ratio of 10-7-4. My own experience, admittedly unsupported by statistical data, would lead me to believe that bismuth more closely approaches arsphenamin and is farther from mercury, in point of effectiveness, than is indicated by Milian's formula.

SOME CALIFORNIA SCHOOL ECONOMICS*

By ALLEN F. GILLIHAN, M. D.
San Luis Obispo

SCHOOL economics through the preventive medicine glasses of public health may be defined as that study which treats of the distribution of wealth with reference to schooling from the public health point of view. The mere spending of money is not what should claim our interest, but what is accomplished—the net results to be obtained only through the spending of money—in other words, the results obtained from our purchases should claim our attention. Millions may be spent in improper health purchases and school public health never obtained. It is only when proper health purchases are made that school public health becomes possible.

SCHOOL TEACHING AS AN INDUSTRY

School teaching is an industry, just as is the manufacture of shoes or automobiles. California is engaged in this industry. There is invested in this state in school property—apart from the university—more than \$496,000,000, which may be segregated as follows:

Elementary schools	\$232,635,000
Junior high schools	41,094,000
High schools	152,830,000
Junior colleges	2,916,000
Total state investment.....	\$496,529,000

This represents the size of our factory. The amount of material our industry is handling is

¹ Templeton, H. J.; Rix, B. M.: Absorption Rate of Bismuth Compounds Arch. Dermat. and Syph., 21:739-755 (May), 1930.

* The author of this paper is the health officer of San Luis Obispo County. Abstract of paper read at the meeting of California health officers, San Diego, September 27, 1932.

represented by school enrollment, which is as follows:

School	Grade	Enrollment
1077 Kindergartens		82,283
4058 Elementary schools		695,135
153 Junior high schools		113,963
363 High schools		498,483
36 Junior colleges		16,918
5687 schools enrolling		1,406,782 in 1929-30

The business of our industry is still growing.

Total State Enrollment	
1914.....	513,319
1916.....	557,350
1918.....	617,402
1920.....	712,818
1922.....	862,461
1924.....	1,055,752
1930.....	1,406,782

A unit of cost in our industry is shown by the annual cost of education per child in 1930-31.

Cost of Year's Tuition	
In kindergartens	\$103.99
In elementary schools	102.05
In high schools	188.97
In junior colleges	239.32

Notwithstanding this enormous outlay we cannot say that this industry is flourishing for we are informed that about eight out of every one hundred children repeat one or more grades. In a big manufacturing plant if they were compelled to remachine eight out of every hundred parts they manufactured, I would be inclined to feel that something was wrong.

Enrollment in elementary schools in 1929-30, 695,135; 8 per cent equals 55,610.

COSTS OF A YEAR'S TRAINING

The cost of a year's training in the elementary schools is \$102.05. This equals \$5,675,000 lost in the elementary schools in California in the year 1929-30. A child who is compelled to repeat a course is retarded one year, during which he must be fed, clothed, and housed. Dublin and Lotka have determined that for the average child this is worth \$394.14. Fifty-five thousand six hundred and ten repeaters have cost their parents for this wasted year in California \$21,918,125.40, indicating a loss of \$27,593,000.

In the county of San Luis Obispo with a population of about 30,000 and an enrollment in elementary schools of 4,169, there were in the year 1931-32 220 repeaters; five and one-third repeaters per 100 pupils. The state averaged eight repeaters per 100 pupils; 220 repeaters at \$102.05 equals \$22,451.

One grows weary attempting to grasp the meaning of these totals in the red. Let us view our industry from the "results obtained" point of view, as in the end it is only the results obtained that count.

Knowledge of preventive medicine is easily obtainable. It should be the property of every individual, learned in his school days so that he can maintain his health through life. It should be

taught properly in our public schools, but the world rightly feels that education is being over-loaded—too many subjects; too much "dead wood" for the growing mind to carry in its preparation for the adult life of this generation, to say nothing of the adult life of the future.

CRITICISMS OF SCHOOL METHODS

A criticism: Regarding the instructing of mentally defective children in the same classroom where normal children are taught; and it is unfortunate that this is done altogether too frequently in the smaller schools in this state. A fifteen-year-old boy may have advanced to a ten-year mental age class, but can go no further. The habits of thought and play of fifteen-year-old boys differ from the habits and thoughts of ten-year-old boys. To permanently keep such a boy in the ten-year mental age class would be as foolish as to pass him along to class after class as his years of life increase without his being able to profit thereby. In either event he would require an undue amount of attention from his teacher, whose time could be given to him only by stealing time from the normal children in the class. The presence of an abnormal child distracts the attention of the other children from their studies. Those who are behind in their work to such an extent as to distract the attention of classmates as well as to require undue attention from the teacher should be placed in special backward classes and under teachers prepared to handle such mental defectives.

Another criticism can be made in regard to a correct convalescent program. After having been sick at home for some weeks from a disease such as whooping-cough or scarlet fever a child returns to school. The active health department has seen that he is free from infection before allowing him to again mix with his classmates. He is now attending school every day and is no longer wasting the sixty-five cents of school funds per day by being absent, but why try to make him speed up his work to catch up with the class; he has been sick, why throw extra strain on the already strained body mechanism? The ill effects of this may not be seen at first. He returns to school and is stimulated to catch up, overworks himself, and shows this strain later in his work; whereas, if his strength had been conserved on returning to school until he had gradually gotten into his old stride, the good effect would have been felt by preventing a breakdown. This breakdown is usually blamed on the disease he had, and not on the real cause, mismanagement.

Still another criticism is in the teaching of personal hygiene in our schools. Why teach a school child the necessity of keeping the hands clean, and then, as in many places, provide the school only with a fly-infested drop privy with no place at which to wash the hands? If there happens to be water available, probably there will be no towel, and if there happens to be a towel in such a school, most likely it will be a dirty common towel. The common facts of preventive medicine have been proven to be true time and time again; the teacher should be better prepared, and be given

ample opportunity to teach and demonstrate them. Teaching and not applying preventive medicine would be as useless as to teach every citizen the very complicated particulars regarding the spectra of the different types of fixed stars when no application whatever was to be made of such knowledge in after life. It would be a downright waste of energy, time, and money.

Some of the modern welfare work is that which is carried on in the big industries, such as a New York department store which employs 10,000 workers to whom a free lunch is served each day because it has been found that feeding these 10,000 workers is less wasteful and less expensive than the slowing up in an afternoon's work which results from the noon-hour hurry on a crowded street to a hot-lunch stand and gobbling unsatisfactory food, then hurrying back to work. This store even provides care, treatment, and rehabilitation for its tuberculous employees. References to other industries which have found it profitable to provide for the welfare of their employees could be cited.

A study of absences and repeaters in a number of the schools of Santa Barbara County made by Dr. R. C. Main, County Health Officer, may be referred to in connection with similar losses through absences and repeaters in the schools of San Luis Obispo County. In Santa Barbara County, during one school year, the absences reached 89,779 days, or an average of nineteen days of absence for every pupil enrolled. Estimating this loss at 65 cents per day, \$58,356.25 was lost to a few of the schools of this county through non-attendance. Doctor Main discovered that 28 per cent of the absences was due to colds in the head, sore throat, tonsillitis, and similar illness. Fourteen per cent was due to the common communicable diseases such as measles, chickenpox, mumps and like diseases. Four per cent had been exposed to some communicable disease and might develop the disease or transmit it to others. Considerably more than half of all absences among school children was due to illness, much of which can be classed as preventable. In the county of San Luis Obispo during the school year 1931-32, 27,262 school days were lost in the elementary schools which, at 65 cents per day, amounted to \$17,720.30. During the same year a total of \$22,451 was lost because of repeaters. Added to the loss through absences, the total was \$40,171.30, which sum was almost twice as great as the entire budget for the County Health Department during the same year.

IMPORTANCE OF PREVENTIVE MEDICINE

Through these glasses of preventive medicine let us see what is the most important function in the schools in relation to the public health. The aim of my small department is, "To enable the people to live a little longer, and through health and education to enjoy more contented lives." It would show an equal lack of intelligence in a teacher of today who tried to impart knowledge to a sick brain as it would to punish a mental defective for having no brain. Punishing a mental defective would be to go back to the Middle Ages

when they punished insane people for being crazy. Still this very thing is being done every day in many of our elementary schools. A boy fails because he cannot see the problems on the board. A very simple test would demonstrate that poor vision was his trouble. Defective vision and poor teeth are among the penalties that this generation must pay for the activities of our civilization. Every child should be examined before he enters school to discover if he has any hampering defects that will retard him in acquiring an education. When found, such defects should be corrected at once. The school nurse is most useful in discovering these defects, and in getting them corrected. She is not the one to make these corrections, but her training is such that she makes a perfect "liaison office" between the school with its activities, the parents with the home life, and the various agencies, public as well as private, which are interested in securing these corrections.

Modern education of the normal growing child produces in time an actual asset to society; but the child with a hampering defect becomes more and more of a liability as education, contact with society, and growth advance. In time he becomes a liability, or he may even become an actual menace to society.

SOCIETY'S OBLIGATION TO THE CHILD

The object of modern education should be to produce generations of assets, and not to produce an increased number of liabilities. Children with defects should have these defects corrected as soon as discovered in the endeavor to cut off the supply of probable liabilities as early in life as possible.

Being a physician, I must naturally defend the physician's services. People who can pay for a doctor's services should be required to do so; but my public health training and experience do not allow me to carry the assumption further. I do not believe in protecting the business and income of the medical profession at the expense of society. Public and private charities should be invoked when necessary to secure corrections of defects. The school nurse is the proper person to get this work done even to the breaking of a deadlock when necessary. A defect should be corrected when discovered, not delayed maybe for several years, until the parents can find money enough to pay the doctor's fee.

FIELD OF THE SCHOOL NURSE

The school nurse's activities are not to be measured so much by the number of defects that she may discover as by the percentage of discovered defects that she succeeds in having corrected. Misunderstanding of the school nurse's duties and limitations frequently is the cause for her being unable to secure better results. I recall a recently appointed school nurse having referred to her a boy with a boil with the instructions to take care of him. When she refused to do so the school authorities were very wroth. They complained to the county health officer at whose earnest solicitation she had been appointed, telling this health officer that his nurse was no good. Here was a

boy with a boil that she had refused to open; why, the school teachers had always opened and attended to these things and they expected to be relieved of such work now that a nurse had been appointed. The school authorities were very much surprised when it was pointed out to them that, opening a boil was practicing medicine which the nurse had no license to do, and when the school teachers did such work they laid themselves open to damage suits. If the boy's parents could not pay for this small medical service the school nurse was the proper person to secure free services for this boy.

The stoppage of leaks is the work of the specialist but not the work of any one person no matter how well trained; frequently many specialists have to work on a single simple problem. When a teacher finds that a boy is unattentive and seems to tire out mentally much quicker than the average child the matter should be investigated by the school nurse. Now this nurse is not trained in the use of the stethoscope; maybe she has to take the boy to the school physician, who finds the boy undernourished and underdeveloped, but otherwise normal. On making further investigation at the home the nurse finds that the boy of ten is compelled to milk twelve cows daily before he goes to school and then frequently goes without a proper breakfast. Is there any wonder that he tires mentally before the school day is completed? To carry the example further: Possibly the parents refuse to make the advised change and give this boy less to do. The father could easily take care of these twelve cows, but he believes the boy should work. "What has he got him for, if not to work?" Surely, this is contributing to the neglect of a minor, and the juvenile court should step in. In this one case we have the teacher, the school nurse, the school physician, the parents, the judge of the juvenile court all being compelled to contribute to the prevention of a school child from becoming a repeater and growing up to be a liability to society instead of an asset. If these people do not follow their duties, the burden is thrown on those who are really trying to carry it, disturbing the balance and, just as in all machinery, when the balance is disturbed, resulting in a breakdown.

SANE CONSERVATION OF PUBLIC FUNDS

At all times, and particularly during the present time of financial depression, we should try our utmost to avoid wasting our funds—we should make every dollar count. Without giving sufficient attention to the problem we may stop an activity which we think we can do without, only to find we have caused a greater leak than the one we have stopped. The denser a population grows the more complicated become the vital problems. The population in California is growing as rapidly as anywhere in the world and our problems are becoming more and more complicated. We desire our population to improve so that California may become a desirable place in which our children can live and enjoy life. Education must never be neglected. The main object in our lives should be

to prepare our children so that they in turn will be better prepared to face their life's problems than we were, and to make a better success of them. I would rather have my son grow up to be ashamed of his father's poor education than to have a son grow up whose education would be a reflection of my neglect.

Education cannot become productive until we plant it in a healthy soil. Like anything else it produces only barren results if planted on barren soil. A healthy childhood does not mean continued health for life. Besides being healthy and being freed from hampering defects, these children must be shown how to so retain their health that they will unconsciously apply this knowledge throughout life.

This knowledge cannot be obtained without expenditure. May we be so guided that the purchases turn out to be assets, not liabilities.

1801 Johnston Street.

THE LURE OF MEDICAL HISTORY*

LEVI COOPER LANE, M. D.—THE LANE
POPULAR LECTURES[†]

By EMMET RIXFORD, M. D.
San Francisco

II

THE Place Given to the Classics.—As was the fashion in education in the days of Doctor Lane's youth, great attention was given to the study of the classic languages. One of Doctor Lane's uncles, Jacob Cooper, became professor of Greek and Hebrew in Rutgers College, New Jersey; and Doctor Lane and another uncle roomed together in Union Theological Seminary, Schenectady, New York, and had an arrangement with each other that their daily conversation should be in Latin. Doctor Lane would tell with much gusto of how one day, when approaching the building in which they lived, he saw his uncle leaning out of the window in his shirt sleeves, wildly gesticulating and shouting at the top of his voice, "Ignis, ignis." The building was on fire. Doctor Lane's study of the classics strongly impressed his literary style, which was a little ponderous, perhaps even pedantic, and yet with quaint imagery. One instinctively feels that his language could easily be translated into Latin. He was fond of taking classic scenes as his illustrations, *e. g.*, in his formula for granting of diplomas to the graduating class each year, he used the following words:

"In the olden days of scholastic learning, the approach of the candidate to the baccalaureate threshhold was the scene of severe contest between him and the guardian authorities; and the witnesses to that

occasion were entertained by the clangor of lances sharply wielded in dialectic battle, in which the candidate was compelled to prove himself fitted for the honors in question. Dismantling this famous ceremony of its ancient dress, I will still preserve the spirit of the same by formally announcing to those who are present to witness your graduation, that you have complied with all the regulations of Cooper Medical College; that you have successfully passed the annual examinations of a three years' course of medical instruction in that institution; in fine, that you have well run the appointed curriculum. As a reward therefor, the directors and faculty of Cooper Medical College have instructed me, its President, to confer upon each of you the degree of Doctor of Medicine, and to give to each of you the diploma of this institution as perpetual and universal evidence of such promotion."

Doctor Lane a Hard Worker.—Doctor Lane was an indefatigable worker. A splendid anatomist, he kept his anatomy alive and constantly refreshed by doing a little dissecting each week. In fact he had a private dissecting room on the fifth floor of the college where in preparation for any serious surgical operation he was wont to make dissection of the part in order that he might not be found wanting in the anatomy of the region on which he was to operate. In his relations with his faculty and students, he was always master. His students he knew by name, often exciting wonder that he could remember so accurately the names of so many students. But he had a system about it, a geographical classification, he knew and remembered the town from which the student had come. His teaching was chiefly by lecture, in which he had the ability to make such strong pictures that they were easily remembered. During the college term he would often invite a group of senior students Sunday morning to witness an operation, done in the largest room in his office, the men's waiting room. He had a few bedrooms on the second and third floors which served as hospital.

Sometimes, when the operation was slow and tedious, he would quote from some classic writer or from Shakespeare. He knew Macbeth, and on one occasion was reciting a passage when his attention was suddenly required in the operation. A sepulchral voice from the back of the group of students went on and finished the scene. It happened that one of the students was C. B. Bishop, a comedian in the old California Theater Stock Company.

Doctor Lane was accustomed to take two students from each junior class to serve as house officers in his office in the afternoons, substituting that work for work in the clinic. I had this privilege for two years, as did my associates, Dr. William Fitch Cheney and Dr. Stanley Stillman, and others. There were no trained nurses, or very few, in those days and we students prepared everything for the operation; one gave the anesthetic, another assisted, and one was assigned as nurse to take care of the patient and watch him for the first twenty-four or forty-eight hours. It was a valuable experience. On Sunday afternoon when practice was quiet, Doctor Lane would often call his students into his office and read us a chapter from Hippocrates or Lucian or Tacitus, translating as he went along.

*A Twenty-five Years Ago column, made up of excerpts from the official journal of the California Medical Association of twenty-five years ago, is printed in each issue of California and Western Medicine. The column is one of the regular features of the Miscellany Department of California and Western Medicine, and its page number will be found on the front cover index.

† Part I of this paper was printed in the December California and Western Medicine, page 382.

Doctor Lane had a wonderful nose. He said, "These young men have to have a thermometer to make a diagnosis of typhoid fever. They don't know typhoid. If one knows typhoid fever he can make the diagnosis on entering the room." And that nose of his could smell a cigarette further than anyone I ever knew.

On one occasion I asked him for a vacation, saying that some friends had planned a tramp in the Sierra and that I would like to go. His reply was that "if you feel that you need a vacation, of course you should have it." Then he looked off, as was his wont, over his glasses, and I waited knowing that something more was coming. He said, "When I was your age I missed but two days in my office in fifteen years."

His Physical Health.—I noticed on a number of occasions that he would leave the operating table in the midst of an operation to be gone for perhaps ten or fifteen minutes, during which time we, his assistants, ligated small blood vessels and otherwise carried on minor parts of the work, when he would return and finish the operation. I often wondered why he left the room. Years afterwards I heard him say that he suffered from indigestion and many times would have to leave the operating table to go out and empty his stomach.

When asked as to his health, he always said it was excellent and slyly remarked to us afterwards that he always gave that answer because otherwise he would have to answer the same question again; and yet he was a great sufferer from sciatica, though few were aware of it. He used to say with wonderful meaning, "It is a great thing to relieve pain."

Doctor Lane's Offices.—Most of his surgery in his active years was done either in private houses or in some of the numerous cheap boarding houses south of Market Street, or in the upper rooms of his office. The front room on the top floor was generally used for more important operations and I can remember sitting up all night many and many a time watching the patient that had been operated upon in the morning. We always knew when morning was coming by hearing the clatter of the vegetable wagons as they came in slow procession down Mission Street from the gardens of South San Francisco.

The office on the ground floor comprised four rooms, a front room, the men's waiting room, the women's waiting room where Doctor Lane had his desk and kept his records, between these, his private office, opening into each of these rooms. There was his examining couch, his instrument cabinet, and a folding bed for the old man who acted as night watchman. Hanging by a thong on the door frame was a pick-handle, to be used for defense in emergency. The fourth room was a sort of laboratory where we young men waited his pleasure.

Doctor Lane's fees were moderate, yet the volume of his office business was such that I remember a certain day in which work was slack enough to cause him to remark that for twenty-five years his office visits had averaged more than

\$50 a day. Old soldiers always appealed to him. He said that any man who had been in Andersonville Prison could have his services without charge. I shall never forget an old miner or prospector who had had some surgical operation, coming downstairs to pay his bill. Doctor Lane had done some operation upon him and the man was ready to leave. Doctor Lane said, "Have you paid your board bill upstairs?" "Yes." "How much money have you?" With some pride the miner answered, "\$75," as if that to him was quite a sum. Doctor Lane said, "Well, I think that \$75 will do you more good than it will me."

Doctor Lane's Knowledge of Human Nature. Doctor Lane was a great student of human nature. He was absolutely intolerant of shiftless, lazy people. On one occasion he performed a small operation on a boy, for which he would ordinarily have charged \$5; perhaps it was opening a boil. Doctor Lane was more interested in the father than in the operation. He sensed something in the man that did not ring true. With his penetrating glance which forced an answer of truth, he asked the man what he did for a living. The man stammered and finally acknowledged that he was a beggar. "What!" said Doctor Lane. "You, an able-bodied man, stand on a corner and accept alms from people who have earned their living by work! I will charge you \$30 for this operation." The man paid it in nickels and dimes. After Doctor Lane's death I told the story to Mrs. Lane. She laughed and said, "That accounts for it, for one evening Doctor Lane came home from the office chuckling and presented me with a bag of nickels and dimes. Many of them were bad."

When antisepsis finally reached San Francisco, Dr. C. E. Farnum, who was demonstrator of anatomy and who assisted Doctor Lane in much of his work, persuaded Doctor Lane to use Lister's carbolic acid spray in an operation. The machine failed to work properly and sprayed Doctor Lane perhaps more than the germs that were trying to get into the wound. Doctor Lane threw the machine out of the window and continued the operation on his old plan.

He was wont to classify surgeons as good or bad according to how they treated fractured elbow, so certain was he of the superior advantages of the straight position. If the surgeon used it, he was a good surgeon, otherwise not. Doctor Lane got splendid results in his treatment of the fractured elbow in children, which consisted of putting it up in straight position, to be sure, but taking off the dressing each day and forcibly bending the elbow through its full range of flexion. This was very painful to the child, as I know, because I often had to hold the child. In other words, although we now know the straight position is not the best, Doctor Lane got good results by molding the callus by this persistent manipulation and gradually adjusting the fragments into normal position. It was because Dr. Oscar H. Allis of Philadelphia treated fractures of the elbow in the straight position that Doctor Lane invited him to give one of the courses in the Lane Medical Lectures.

Nothing would rouse Dr. Lane's ire like a suit for malpractice. He often said he would cheerfully take the witness stand in defense of his bitterest enemy to fight a malpractice suit, and yet when a patient was brought to him with a bad result from an improperly treated fracture, Dr. Lane sent the patient back to his doctor saying, "Let him finish it." To me he said, "It might do him good to take a little of his own medicine. That doctor was the prosecuting witness in a viciously fought malpractice suit against a fine old doctor in his town who brought him into the world." Dr. Lane felt that for anyone, especially a doctor, to act as prosecuting witness against the man who had brought him into the world, was the very acme of ingratitude.

Doctor Lane's Kindliness of Heart.—Doctor Lane, an austere man, was still the embodiment of kindness to the unfortunate. I once heard him say that he did not wish any man to feel too poor to have his services. On one occasion I happened to be walking with him on the street, and when he saw me step upon a cockroach that happened to be crossing the pavement, he said, "His life was not worth much, but it was precious to him." When caring for a child he had equal regard for the feelings of the mother, and said to us, "Remember that it is her child."

As a surgeon, Doctor Lane was not greatly original and, unfortunately, kept very brief and imperfect records, so that although his practice was enormous he left very little that the student of today can use. He worked out vaginal hysterectomy as an original anatomical study, not knowing that the operation had been done in the early years of the nineteenth century in France and had been forgotten. A mother brought her child to him suffering with microcephalia. The mother said, "Can you not as a surgeon unlock my child's brain? The bone is closing in on it." This suggestion of the mother led Doctor Lane to perform the operation of craniotomy, in which he preceded Lannelongue by many years. The operation was, of course, futile because the real trouble was maldevelopment of the brain itself.

In his money matters, he had many opportunities for favorable investment. Mackay, of Comstock Lode fame, gave him a tip as to probable movements in the stock market. In refusing the tip, Doctor Lane's reply was that his mine was in his office, but an associate took the tip and realized handsomely.

Doctor Lane's Gift of Cooper College and Lane Hospital.—In building Cooper College and Lane Hospital, Doctor Lane was proud to put up a tablet reading: "This building, erected by Levi Cooper Lane, with moneys earned by himself in his profession, is dedicated to suffering humanity and to the medical profession in the hope that the former may here find refuge and relief and the latter exercise of its humane skill and intelligent sympathy." But his course in building Lane Hospital was fraught with many difficulties and strenuous opposition from property holders in the neighborhood. One property holder sent him an anonymous postal card,

threatening to blow up him and his institution with dynamite if he persisted.

I had the honor to assist Doctor Lane in his last surgical operation which was for the removal of a cancerous breast. He was so weak that it required much mental effort to complete the operation. At one stage he said, "Give me more light; I can't see in the depth." I handed him his old scissors that he had used for many, many years, saying, "Use these, Doctor Lane; they have been there so often they would scarcely need light." He smiled, and after the operation held up the scissors and said, "Never cut adhesive plaster with those scissors. That's what Doctor Cooper said to me when he gave them to me forty years ago."

After a long and exhausting illness, death finally came on February 18, 1902. The nurse in attendance said he suddenly woke from a drowse, partially sat up and said, "Oh, it is death, it is death," and expired. Doctor Stillman and I were not far away and, when reaching the room and learning of it, Doctor Stillman said, "I wonder what it looks like when seen so close at hand."

1795 California Street.

CLINICAL NOTES AND CASE REPORTS

DERMATOLOGIC DIAGNOSIS*

By MOSES SCHOLTZ, M. D.
Los Angeles

II

MORPHOLOGIC SYNDROMES OF COMMON DERMATOSES

NOW, after the consideration of general diagnostic principles, we shall proceed with portraying morphologic syndromes of the dermatoses most frequently seen in the general practice.

ECZEMA

Eczema is unquestionably the most common dermatosis. It should be stated here that eczema and dermatitis in the minds of the most modern dermatologists are identical conceptions morphologically, histologically, and etiologically. All attempts to differentiate between them proved futile, artificial, not convincing, of little practical value, and extremely confusing to the students of dermatology. I also accept them as identical and interchangeable conceptions, so one can say seborrhoeic and trade dermatitis or trade eczemas as well as seborrhoeic. The morphologic traits of eczema, *i. e.* dermatitis, are:

1. Color—Pink, pale or angry red.
2. Lesions—Macular, papular or vesicular.
3. Shape—Irrregular.
4. Lesions have a tendency to coalesce.
5. Borders—Ill defined and diffuse.
6. Infiltration, scaling and crusting evenly distributed in the center and edges.
7. Itching, as a rule.

* This paper is printed in serial parts in California and Western Medicine. Part I was printed in the December number, page 375.

8. Does not ulcerate or scar.
9. Universal distribution with no sites of preference.

Chronic lichenoid eczema constitutes a special morphologic type of eczema characterized by striation, *i. e.*, lichenification (crisscross lines).

SYPHILIS

The next in importance is the group of skin syphilis. The morphologic traits of cutaneous syphilis, known as "specific stigmata," are:

1. Dusky, dull red, "raw ham" color turning later to brown copper color.
2. Lesions located deeply in the skin rather than on the skin.
3. Secondary syphilitic lesions have a tendency to form flat lesions (flat condylomata and late nodular syphilis).
4. Early syphilitic lesions have round or oval form, late lesions—assume kidney shape (serpiginous).
5. Bullous lesions are observed only in congenital syphilis, never in acquired.
6. Syphilitic lesions are not itchy, as a rule, exceptionally they are.
7. Syphilitic ulcers have greasy, lardaceous bases with greenish dirty, heavy crusts, punched-out borders, no bleeding on teasing.
8. Syphilitic scars are soft, atrophic, often of cigarette paper type.

DERMATITIS VENENATA

Dermatitis *Rhus toxicodendron* or, as it is commonly called, dermatitis venenata, presents a morphologic picture quite distinct from common vesicular eczema:

1. Vesicles are always discrete, much larger than in eczema.
2. The early lesions are located on the exposed parts of the body, such as face, neck, arms, and legs.
3. Affected parts are often edematous.
4. Vesicles are mostly broken open by scratching.
5. A most characteristic trait—The vesicles often run in linear streaks, following lines of traumatic irritation and scratching.

EPIDERMOPHYTOSIS

The group of skin lesions covering an enormous clinical domain is presented by epidermomycosis of epidermophytosis type. The morphologic traits and clinical forms of epidermophytosis are very characteristic.

1. Most common lesions are vesicular and squamous of interdigital spaces of the feet, hands, palms, and plantar surfaces.
2. Next in frequency—Round, circinate or discoid patches in the groins, face, and the trunk.
3. Patches are always sharply defined, round or circinate in shape.
4. Vesicles are mostly broken open by scratching and leave a turned up scaly edge—so-called "epidermal collarette."
5. Vesicles are deeper and larger than eczematous, occur in clusters and spread at periphery.
6. Important differential feature—In mycotic eczemas desquamation is a much more pronounced feature than infiltration; while in nonmycotic eczemas just the opposite—the infiltration is more pronounced than desquamation.
7. The tendency to a clearing center or, at least, to a greater activity on the edges than in the center (marginal activity).

PITYRIASIS ROSEA

It is advisable for practical reasons to include here pityriasis rosea, a mild and harmless dermatosis, seemingly caused by an as yet unidentified fungus. Strangely enough, it is commonly un-

recognized and taken for secondary syphilitic, food rash, or nervous eruption. Yet its morphologic syndrome is remarkably constant and characteristic.

1. As a rule, symmetrical involvement of the trunk and the limbs up to the neck and down to the knees, following "bathing suit" distribution.
2. The lesions are well-defined, circinate, with elevated scaly edges.
3. Lesions are of buff, tawny salmon color, superficial.
4. The primary—mother or herald patch—is usually the largest.
5. The itching is often intense.
6. Duration is seldom more than six weeks; hardly ever recurs.

SEBORRHOIC DERMATITIS

Because of the strong pictorial resemblance with mycotic dermatoses and pityriasis rosea, seborrhetic dermatitis can be conveniently considered here. Its morphologic traits are:

1. Superficial, heavy, oily, yellowish, easily removable scales or crusts.
2. Sharply marginated, annular or circinate patches.
3. Primary involvement of the scalp, creeping down over the hairline.
4. Sites of predilection—Forehead, nasolabial fold, eyebrows, sternal region, interscapular region.

STREPTODERMATA

Superficial streptodermic infections, because of their wide dissemination and high incidence in general practice, merit a study of their morphologic picture.

The primary bullous type, commonly known as impetigo, is too well known to call for a portrayal; it is the secondary pyodermata so often invading eczematous patches that are commonly overlooked. Morphologic traits of streptoderma are:

1. Large vesicles and bullae which break open so early that they are but rarely found.
2. Well defined, round or circinate moist, very superficial deep red patches, often with thin epidermal fringe, the remnants of a bulla.
3. An important characteristic of streptoderma—Serous exudation drying up into heavy superficial crusts.
4. Very contagious, spreading on the periphery, through contact and self-inoculation.

SYCOSIS BARBÆ VERSUS TINEA SYCOSIS

These are two infectious dermatoses of clinical importance which resemble each other in general appearance. Their morphologic differentiation is:

Sycosis barbæ—staphylogenous:

1. Deep follicular pustules and abscesses limited to the hairy parts pierced in the center by a hair.
2. No alopecia, unless hair is pulled out deliberately.
3. Hair extraction is painful.
4. The end of an extracted hair shows pussy discharge.
5. The hair shows normal luster, gloss and lubrication.
6. Slides and cultures show staphylococci.

Tinea barbæ—trichophytica:

1. Soft, boggy, purplish, nodular growths and scaly patches on the hairy parts.
2. Patchy, spontaneous alopecia and hair stumps.
3. Hair—dry, lusterless, lifeless.
4. Hair pulled out painlessly.
5. The end of the removed hair shows dry dusty deposit or glairy mucopurulent discharge.
6. Slides and cultures show fungi trichophyton.

PSORIASIS

Psoriasis in fully developed and typical cases is easily recognized even by the beginner, but there are many atypical and abortive cases which are easily unrecognized unless carefully differentiated. Its morphologic traits are:

1. Localization—Preferentially extensor surfaces: knees, elbows, scalp, back, exceptionally on the palms, groins, penis.
2. Silver-white, profuse, mica-like scales, pathognomonic, if present.
3. Dry, scaly, thickly infiltrated—deep and diffusely—throughout the whole patch.
4. On scratching readily raised silver-white scales and papillary hemorrhages.
5. Chronic cases commonly do not itch, but acute may itch intensely.
6. Color is pale pink, white or angry deep red, but never dusky red or violaceous.
7. May be annular, but even then irregular in shape—not circinate or serpiginous.
8. Psoriasis is often associated with seborrhea on the scalp, in which cases seborrhea is superimposed on underlying psoriasis.

LUPUS ERYTHEMATOSUS

Lupus erythematosus is not an uncommon dermatosis, yet it is often missed because of the unfamiliarity with its morphology, which is both very constant and typical:

1. Sharply defined dry, discoid patches thickly infiltrated.
2. Localized preferentially on the face, ears or scalp in chronic cases.
3. Patches mostly of irregular shape, unilateral or bilateral, at times butterfly formation.
4. Patches are dry and rough to the palpating finger.
5. Scant, tightly adherent scales and stippling effect due to patulous follicular ducts.
6. Central pale depressed area due to a superficial atrophy is observed in old patches.
7. On the scalp it tends to produce soft atrophic patches of alopecia.
8. Itching is not uncommon.
9. Persistence of duration and localization.

LICHEN PLANUS

Another dermatosis far from being rare, yet but rarely recognized in spite of its very constant morphologic traits:

1. Discrete, polygonal, violaceous, dry papules, waxy and shiny looking, intensely itchy as a rule.
2. Papules may coalesce into patches, yet retain their individual outlines.
3. Located preferentially on the flexor surfaces—fore arms, legs, penis, thighs, abdomen, occasionally generalized over the whole body.
4. Lichen papules often occur in streaks and following the lines of scratching and traumatic irritation.
5. It may occur in the mouth as milky white, discrete papules simulating leukoplakia.

ERYTHEMA MULTIFORME

Erythema multiforme, as indicated by its name, is one of the manifold skin reactions to a systemic infection or toxemia. Its morphologic traits are:

1. May be macular (diffuse erythema), papular and bullous separately or combining all three types in one.
2. Papular type preferentially localized on the back of the hands, neck, and frontal aspect of the legs.
3. Papular lesions are large, umbilicated in the center, soft edematous and deep red or purplish in color.
4. Often combined with urticarial lesions.

(To be continued)

CARONIA VACCINE IN TREATMENT OF PARATYPHOID B

REPORT OF CASE

By ROBERT A. STEVEN, M. D.
San Francisco

CARONIA,¹ in 1917, reported on a lysed vaccine which he had prepared for use in treating cases of typhoid and paratyphoid infections. The technique of preparation is as follows: Stock cultures of paratyphoid A, paratyphoid B, and typhoid are separately grown in broth media, after which the cultures are pooled. Two per cent by volume of whole blood from a person with a high agglutination titre for typhoid bacilli is then added, and the mixture incubated until all the organisms are lysed. This is then centrifuged, and the clear supernatant fluid drawn off, phenolized and put in ampoules for use.

This vaccine has been extensively used by the Italians in typhoid and paratyphoid infections, but has not been generally used in America.

De Grazia² reported on a carefully studied series of one hundred and twenty hospital patients treated with Caronia's vaccine. Of this group, fifty-nine were typhoid, forty-five paratyphoid B, and fourteen paratyphoid A. He stated in part: "It is rare that dangerous effects are produced. Its use shortens the course of the disease, or attenuates the symptoms, so that the patients do not enter convalescence in a cachectic condition. We can say that there is a sudden stimulus to the defensive mechanisms of the body, since there is a leukocytosis. Similar reactive manifestations were obtained in those cases treated with *B. coli* or staphylococcus vaccines. We should not jump to the conclusion that the results with the Caronia vaccine are entirely due to nonspecific protein. Probably there is some specific as well as non-specific action with the latter. This vaccine should be the treatment of election in typhoid."

REPORT OF CASE

M. L., a boy of twenty-three, had been ill for nine days when I saw him at his home on August 25, 1931. His symptoms had been anorexia, nausea, vomiting, high fever, drenching perspiration, severe lower-back ache, mild headache and general abdominal soreness. He had called another physician five days before who had diagnosed his disease as influenza. These symptoms had been increasing in severity over the nine-day period.

Previous history disclosed that there had never been any inoculation against diphtheria or typhoid, but otherwise was noncontributory.

Physical examination gave the following positive findings: The conjunctivae were markedly injected; there was a heavy grayish-brown coat on the tongue; there was some odor to the breath; the throat was normal in color and did not appear to have been recently inflamed; the gums were red, spongy and bled easily, almost as in scurvy; there were no palpable lymph nodes. The heart and lungs were normal; blood pressure was normal; the upper recti were moderately rigid, which I thought was due to continued vomiting, otherwise the abdomen was negative. The spleen was not palpable, but the area of splenic dullness was increased. All the reflexes were hyperactive; there was a coarse tremor of the hands and some pallor. On

the right arm were two dull, red spots, the size of pinheads, the color of which did not fade with pressure. These were gone the next day.

The patient's serum, taken on August 26, failed to agglutinate *B. typhosus*, *B. paratyphosus* A, *B. paratyphosus* B, *B. enteritidis*, *B. abortus*, or *B. melitensis*. On August 27, sterile ox-bile, glucose, veal broth, hormone broth, and glucose brain broth were each inoculated with five cubic centimeters of whole blood from the patient. A heavy growth was present in the first in twenty-four hours, and in each of the others in forty-eight hours. The organisms were Gram-negative rods. An antigen made from this culture was agglutinated by paratyphoid B antiserum in a dilution of 1:2560, and by typhoid and paratyphoid A antisera in a dilution of 1:40. The patient's serum, taken September 1, agglutinated *B. paratyphosus* B in a dilution of 1:25, but failed to agglutinate *B. typhosus* and *B. paratyphosus* A.

On September 1, the patient was given intravenously 0.2 cubic centimeter of Caronia vaccine (obtained from Dr. Karl Meyer's laboratory at Hooper Foundation, University of California), preceded by 1.0 cubic centimeter of a 1:1000 solution of adrenalin. The immediate reaction was alarming. The patient complained that his chest was in a vice, that he could not breathe and was going to die. His lips and fingertips became dark blue, almost black. This reaction wore off in a few seconds. There was no chill. The further course of the temperature can be seen by reference to the accompanying chart. On September 3, the patient shaved himself and complained that he could not get enough to eat. From this time on he felt fine and ate heartily, and to all appearances was perfectly well. He has remained so since.

A single stool culture, taken September 19, was negative. The urine was not cultured. The spleen was never palpable, and no rose spots ever were seen, though they were searched for daily.

COMMENT

It is seen that convalescence began on the twentieth day of the disease. It is possible that the same thing would have occurred without the vaccine.

The reaction from the vaccine, to all outward appearances, was certainly that of foreign protein introduced into the blood stream. The leukocytosis in De Grazia's cases is probably explained in this way. We are not convinced that all the results claimed for this vaccine are not due to foreign protein. The immune bodies introduced

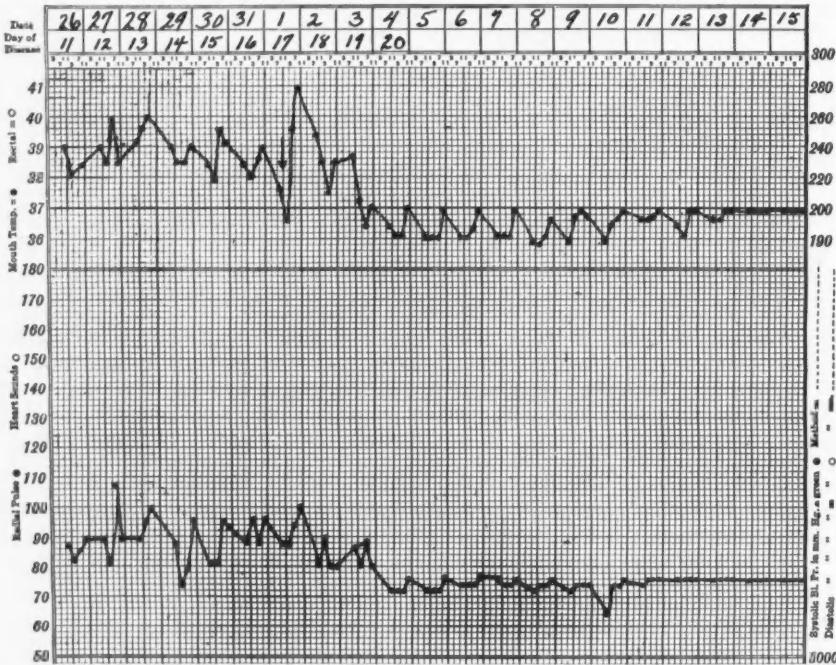


Fig. 1.—Temperature graph. Arrow below 1-17 shows when vaccine was given.

may, however, as De Grazia suggests, be responsible for part of the good results reported.

384 Post Street.

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1. Caronia, G.: *La Pediatria*, 1, 1917.
2. De Grazia: *La Diagnosi*, 8, 1928.

THE USE OF COPPER IN ACNE

By H. H. PARSONS, M. D.
San Bernardino

DURING 1930-1931, in an effort to find a suitable copper preparation which could be used parenterally in the treatment of actinomycosis, I made about fifty organo-copper compounds and, while these appear to be about equally efficient therapeutically, I have chosen para-acetophenetidin copper for use, as it seems to be less painful than the others when administered intramuscularly.

While treating a patient with this preparation for another complaint, I noticed that the acne which she had disappeared, hence I was led to try it on other cases of acne. As the results have been so striking, I would like to see it given an extensive trial.

Most of the cases treated have been of the vulgaris type with deep pustules, papules, and in some cases small abscesses, and in all many old scars. They have all been refractory to other types of treatments. In these cases I have found it necessary to open the deep indurated pustules and express the contents. I also combine the copper treatment with one of autogenous vaccine, which seems to aid. The papular cases clear more readily.

Para-acetophenetidin copper is put up in glycerin base, so that one cubic centimeter contains approximately one-sixteenth grain of metallic copper, and this is an average dose. The injections should be given every four to five days intramuscularly in the gluteal region. As the glycerin is thick, it is best to draw it into the syringe before the needle is applied.

The lesions usually begin to disappear after the third or fourth injection, and ordinarily twelve injections suffice to clear the ordinary case, but in one case I found it necessary to give thirty-two injections, as the eruption would reappear in mitigated form at each catamenial period.

No untoward effects have been observed from the injections, but they are painful, the patients complaining of a dull ache extending down the leg, and this may persist for several hours. Occasionally the injections are painless. No indurated areas have been observed.

In addition to its more or less local action, copper seems to act as a tonic, possibly due to its catalytic action. One patient gained eighteen pounds in two months following a few injections, and refused further treatments on that account. Others have refused to continue treatment on account of the pain, and in these I have injected novocain previous to the copper injection. The combining of copper chemically with any of the known local anesthetics makes them lose their anesthetic properties. The writer of this report will send the name of the makers of this preparation to any colleagues who are interested.

Fox Theatre Building.

SUBPHRENIC ABSCESS—WITHOUT PREVIOUS OPERATION

REPORT OF CASE

By PAUL J. BOWMAN, M. D.

AND

HOMER H. WOLFE, M. D.

Fort Bragg

D. M., male, age thirty-two, was brought 175 miles over bad roads for treatment on April 7, 1932.

History.—One week previously (April 1) at 4 p. m. he began to have severe cramps in his abdomen. They continued to get worse and about 6 p. m. localized more definitely in the epigastric region. His family physician was called and a narcotic given. He vomited several times during the night, at which time the pain would get worse for a while, radiating to front of right side of chest and to right back. By noon of the following day the pain gradually subsided, leaving an extremely painful, swollen right epigastrum and hypochondrium. He had taken castor oil and bowels were acting freely. He now has pain on deep breathing or on movement. There is also noctidrosis. Past history was negative except for attacks of "indigestion" over a period of ten to twelve years.

Examination.—Temperature was 100.2, pulse 84. Short, rapid breathing and the appearance of a very sick man. No jaundice. There was dullness in chest, anteriorly, from fourth rib to three centimeters below costal margin; posteriorly, flatness from angle of scapula down. No breath sounds over right lower lobe. Increased breath sounds on left side of chest. There was a very sensitive, slightly swollen area in right epigastrum. The lower abdomen was soft and

not tender. White blood count was 14,500 with 75 per cent polynuclears. Urinalysis was negative. Fluoroscopic and radiographic examination showed right side of diaphragm much higher than normally, with no perceptible movement. There was no change in density above the diaphragm. The lung fields were normal in appearance. A diagnosis of subdiaphragmatic abscess, most likely resulting from an acute perforative gastric ulcer, was made and operation advised.

Operative Findings.—In considering operative treatment the best method of approach was discussed and, because of the strong probability of "pointing," it was decided to follow the abdominal route and incise over the sensitive, swollen area in the right epigastrum. The right rectus muscle was retracted outward and the falciform ligament was directly under the incision. There was no bulging here, however, and probing did not disclose any discharge. On further examination, on the lesser curvature of the stomach was found a perforated gastric ulcer, well sealed with fibrinous exudate, apparently healing well. The gall-bladder was normal. While exploring this region with the gloved hand, following along the gall-bladder sulcus up to and over the edge of the liver, a finger penetrated an abscess cavity covering the whole right dome of the liver. There was a gush of sanguinopurulent fluid with some odor. After evacuation of this fluid, one spit rubber drainage tube was inserted over the dome of the liver and another to the lesser gastric curvature. The general peritoneal cavity had been more or less excluded by the transverse colon and mesocolon. The operative wound was closed in layers around the drainage tubes.

Postoperative Course.—This was uneventful, the temperature remaining normal after the fourth day, when the drainage tubes were removed and all drainage stopped after the twentieth day. He was discharged from the hospital on the twenty-fifth day. Since his discharge from the hospital he has been on a restricted convalescent ulcer diet. On June 16, 1932, his weight was 128½ pounds, his best previous weight having been 134 pounds. Fluoroscopic examination showed good excursion of right diaphragm and he has made a complete recovery.

Comment.—The majority of cases of subphrenic abscess reported have been postoperative. This is an exception. This case is also interesting in that the acute perforative gastric ulcer healed without operation.

615 North Main Street.

Vitamin D Milk.—Important problems in milk control were discussed at a meeting of the New York Department's Advisory Committee on Milk Sanitation, held in Albany on October 13. The subject of vitamin D milk was considered at length. The vitamin D content of milk fat can be materially increased by several measures, the simplest and most practical being (1) the feeding of irradiated yeast to cows, and (2) the addition to the milk of a special concentrated cod-liver oil. Both of these procedures are patented, each patent being held by a teaching institution.

Much is claimed by the organizations selling vitamin D milk for the value of this product in special cases. Thus far, little knowledge is available as to the possible deleterious effect upon normal persons of a steady diet high in vitamin D. The committee recommends that for the present and until further information is obtained, the department take a neutral position, with the understanding that dairymen or milk dealers who have adopted these procedures be given no assurance that their continued use will be permitted. At the present time a small amount of "certified" vitamin D milk to which the vitamin is added by the feeding method is being sold in New York State.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

BOILS AND CARBUNCLES, WITH SPECIAL REFERENCE TO TREATMENT

MERLIN T. R. MAYNARD, M. D. (Medico-Dental Building, San Jose).—Boils and carbuncles are daily occurrences in the life of the average physician. They are diseases met with in all specialties, as for example, an hordeoleum of the eyelid, a pustule in the external auditory canal, an infected vibrissa of the nares, a pararectal abscess, or as a lesion found here and there on the surface of the skin.

Because of their pathologic differences, boils and carbuncles present slightly different problems in management. Symptomatically they may vary greatly. In the early stages of carbuncles a large amount of tissue is killed and the leukocytic action is repelled. The bacteria are allowed to work in the interior of the necrosed mass unmolested by leukocytes. The inhibition of the leukocytic action delays separation of the slough considerably.

In the boil the situation is rather different, the leukocytic action is quickly organized and a line of demarcation rapidly develops to form the usual single core. These differences between a carbuncle and a boil require some variations in management. The time-honored treatment of a boil and carbuncle has been that of the application of hot compresses until pus appears, following which they are incised and drained. The average case does relatively well on this procedure and is terminated according to the defense mechanism of the patient.

The present-day surgical school, as regards treatment in carbuncles believes in radical excision of the entire necrotic mass. Skin flaps are left to heal over the raw area; the resultant scar is moderate but rather ugly. Boils are simply incised and the core removed when it has separated.

The dermatologic school is probably more conservative, and although my viewpoints may not apply to dermatologists as a whole, I believe they do for the majority.

In the hands of the dermatologist the x-ray treatment of the indurated area of boils or carbuncles has proved an active weapon in treatment. One skin dose of x-ray is given and in twenty-four to forty-eight hours it is a common experience to find the infection subsiding.

Nonspecific protein stimulation of leukocytic action has been an extremely valuable adjunct to treatment. An injection of milk protein into the muscles in from five to ten cubic centimeter doses usually brings a softening of the lesion within twenty-four hours. From adequate personal experience, I feel that I can highly recommend this combination of x-ray and nonspecific therapy.

In the event of failure of the above procedure, compressing methods and possible surgical excision are usually carried out. However, in the past eight years of practice, I have not found it necessary to excise a single carbuncle. I wish to mention bacteriophage therapy because of its recent prominence. I have found little use for bacteriophage treatment, but largely because of the necessary loss of time in procuring the specific 'phage. Very often this is not available and the loss of money and time is considerable. I grant, however, that the clearing up of boils and carbuncles from the use of specific bacteriophage is very striking.

To sum up, my usual advice in regard to treatment of boils and carbuncles is the application of one skin dose of x-ray, accompanied by foreign protein injection. In the event of failure, surgical procedures are necessary.

To mention chronic furunculosis, of which so much is heard in general practice, I would like to state that in no case of recurrent boils has any procedure been necessary aside from the removal of the possibility of unclean skin and infected fomites, and I feel I can definitely state that except in the presence of pyemia or similar contributing focus, the use of vaccines or other procedures than antisepsis has been unnecessary.

With this end in view I prescribe antiseptic washes, antisepsis of the household contacts, and the complete cleaning and fumigation of all clothing that has come in contact with infected skin.

* * *

E. W. SCHULTZ, M. D. (Stanford University).—*Serum Therapy.* The use of specific antiserum in the treatment of boils and carbuncles has at no time occupied a position of importance, despite the fact that in acute infections the use of antiserum is more logical than is the use of a vaccine. While antisera, potentially at least, bring to the patient immune substances ready to serve in an emergency, the virtue of a vaccine rests solely in its capacity to stimulate active immunity. An active immunity, however unlike passive immunity, is something which is generally acquired slowly, and therefore cannot be counted on to meet the needs of an existing emergency. The chief value of vaccines, therefore, rests on their prophylactic rather than curative effects. While in furunculosis the main object of vaccine therapy is the prevention of new lesions, in carbuncles the logic of using a vaccine as a therapeutic measure is not so apparent. Here the use of a specific antiserum would seem more to the point. But while antisera theoretically offer the more logical approach we face the *plain fact that really effec-*

tive antisera against the causal agents here have not become a practical reality. Though a few clinical investigators believe they have demonstrated virtues in the use of antisera (also following the injection of the patient's own serum in the region of lesions) it is not clear that the results which have been realized rest on anything more than a nonspecific action. While such nonspecific stimulation may be of value, especially in instances in which the residual immunity has not dropped too greatly below the actual needs of the patient, such effects may, as is well known, be realized following the injection of a variety of foreign proteins. Indeed, in the use of any therapeutic agent, especially those incorporating foreign proteins, it is not easy to separate the specific from the nonspecific therapeutic effects. Something regarding the mechanism of recovery following nonspecific protein therapy is revealed by the fact that the antibody titer for a given organism may be definitely raised following the injection of unrelated foreign protein into previously immunized laboratory animals in which the concentration of specific antibodies has been allowed to decline to a low level. In the face of a preexisting specific immunity, therefore, nonspecific foreign proteins have an effect comparable to a poker applied to a fire about to die out. But just as stirring a fire may liven it up somewhat, to get a really lively blaze additional fuel is necessary. In the realm of immunity this additional fuel is supplied in the form of a vaccine.

Vaccine Therapy.—The present status of vaccine therapy in boils and carbuncles seems to be well pictured in a recent publication by Hektoen and Irons (1929). The report is based upon results of a questionnaire designed to elicit information as to the general use of vaccines. We are, however, concerned here only with information relating to the use of vaccines in the treatment of furunculosis and carbuncles. It is of interest that of the total number of physicians to whom the questionnaire was directed, only a third used vaccines of any sort in the treatment of furunculosis. It is also of interest that less than half of those who used even the more favored autogenous vaccines actually regarded their results as "good"; the remainder felt the results were "variable" or essentially "negative." Whatever the truth may be as to the potential merits of vaccine therapy in furunculosis one cannot escape the impression that vaccine therapy, even in its most acceptable application (furunculosis), has slipped somewhat from its former position, in the esteem of the profession. This may be due, as Keily (1930) and others have pointed out, to the use of unsuitably prepared and improperly administered vaccines; or may in reality rest on a natural limitation of this form of therapy. It must be admitted that even in the face of the liberal trial which vaccine therapy has received, it is difficult to point to proof that vaccines possess specific therapeutic virtues even in furunculosis. That vaccines benefit some patients cannot be denied, but that the recoveries are always clearly related to specific rather than nonspecific stimulation, is

not so clear. As regards the administration of vaccines, more emphasis should probably be placed on multiple intradermal, as against the more massive subcutaneous injections of the vaccine.

In carbuncles the use of vaccines does not appear a sound therapeutic procedure, and in principle is not to be recommended.

'Phage Therapy.—The use of 'phage in the treatment of boils and carbuncles dates from 1921, at which time excellent results were reported on a small series of cases by the Belgian investigators Bruynoghe and Maisin. About the same time Gratia of the Pasteur Institute in Brussels reported excellent results on about fifty cases. Since then a number of reports on the results of 'phage therapy in boils and carbuncles have appeared in the literature, several of them based on respectable numbers of cases. Especially noteworthy are the more recent reports of Larkum (1928, 1929), Rice (1930), Alderson (1930), Crutchfield and Stout (1930), though a well-defined enthusiasm runs through all the papers published to date. While there has been uncertainty as to the actual merits of 'phage in some types of infection, the results in the treatment of boils and carbuncles have been sufficiently outstanding to warrant continued interest in the possibilities of 'phage therapy in general. True, not all the cases reported have responded to 'phage treatment, but the number in which no therapeutic results are realized is certainly not large. According to the results reported in the literature at least 75 per cent of the cases may be expected to respond when a suitable 'phage is employed. This harmonizes well with the results which have been reported to my laboratory to date by physicians to whom we have supplied 'phage for therapeutic trial. The superiority of 'phage over vaccines in furunculosis seems evident not only on the ground of a higher incidence of recoveries (if we may in a spirit of liberality place the results of vaccine therapy at between 50 and 65 per cent), but also by the fact that good results have been reported by 'phage treatment after vaccine therapy failed (Larkum, 1929; Crutchfield and Stout, 1930, etc.). That the results are not due primarily to nonspecific effects nor to a Besredka "antivirus" effect seems apparent from results which have been reported bearing on the superior merits of well chosen as against poorly chosen 'phages. Standards for 'phage products generally still need to be worked out.

While vaccines cannot be said to represent a logical therapeutic measure in the treatment of carbuncles, 'phage therapy, because of its *immediate virtues*, may be accepted as a thoroughly sound procedure. Moreover, the results with this form of therapy are generally regarded as exceedingly good.

As regards the mechanism of 'phage action, it is altogether possible that the therapeutic effects of 'phage do not rest altogether on a direct bacteriolytic action which it may exercise, but in part at least on other effects of some importance.

It has, for example, been shown by a number of investigators that specific 'phages may exercise an opsonin-like action on pyogenic cocci. By such action 'phages may greatly facilitate phagocytosis. Evidence of such an effect is frequently observed clinically in the more marked purulence which often marks the rapid regression of acutely inflamed lesions. While the immediate effects of 'phage are important, especially in the treatment of carbuncles, its potential immunizing properties must also be considered. This is particularly true in treating furunculosis. In this connection it may be stated that although the bacteria in a culture may appear to be completely dissolved a certain residue of undenaturized bacterial protein almost invariably remains. The residue, if we may judge from the results which have been realized in furunculosis, is apparently sufficient to stimulate the active immunity heretofore sought with the aid of specific vaccines. We may say, therefore, that a 'phage lysed bacterial culture may be regarded as a dual agent possessing both specific therapeutic and specific prophylactic properties. That the mixture may also exercise a nonspecific therapeutic action because of the foreign proteins represented, of course, cannot be denied.

The choice of 'phage for therapeutic use is important. While it is now possible to supply stock staphylococcus bacteriophage mixtures active for approximately 90 per cent of staphylococcus strains, the best results are naturally to be expected with 'phages regenerated at the expense of the strain actually responsible for a given infection. Several clinical investigators (Rice, Larkum), however, claim excellent results with stock preparations. When an autogenous 'phage is desired, the exudate must be carefully plated to insure discrete colonies, and five or six individual colonies should be transplanted to as many agar slants and these sent to a laboratory prepared to carry out 'phage-susceptibility tests.

In carrying out 'phage treatments on cases of furunculosis, probably the best procedure is to administer the 'phage intradermally with a small needle (26 gauge, one-half inch) attached to an ordinary tuberculin syringe, approximately 0.2 cubic centimeters being administered near the base of individual lesions. A total of one to two cubic centimeters may be distributed in this way at a single treatment. The treatments may be repeated at intervals of two or three days, if necessary. The 'phage may be administered subcutaneously in a single dose of one to two cubic centimeters, but intradermal injections near individual lesions should be given preference. In the treatment of carbuncles it is seemingly the better practice to inject about two cubic centimeters of 'phage, in divided doses of about 0.2 cubic centimeter amounts intradermally, immediately around and into the lesions. The treatments may be repeated in twenty-four hours. 'Phage-soaked compresses may be applied to open lesions.

From the patient's standpoint, 'phage therapy should be appreciably less costly than vaccine therapy.

JOHN HUNT SHEPHERD, M. D. (Medico-Dental Building, San Jose).—*Surgical Treatment.* Since a carbuncle is a close grouping of boils of approximately the same age, though usually extending deeper into the areolar tissue, with a coalescing of the areas of induration, the underlying principles of treatment are the same for both.

Their etiology is the penetration of a hair follicle or sebaceous gland by the staphylococcus and the small superficial infection of a hair follicle and the extensive carbuncle differs only in degree and not in kind, as regards the pathologic process.

The defense wall of leukocytes and endothelial cells which nature builds around this type of infection causes a venous stasis with a localized central area of moist gangrene, which is eventually cast off as the core, allowing free drainage with prompt subsidence of the inflammatory process.

Being familiar with the life cycle of boils, surgeons have long attempted to shorten their course by early free incision and at times by rather wide excision, especially in the treatment of carbuncles. This practice is often necessary when the surgeon is consulted, but had proper treatment been given in the early period of the infection such radical surgery would seldom be required.

On account of the irregularity and undeterminable size of the local area of necrosis, it is impossible to remove the involved area surgically without sacrificing some healthy tissue and opening new avenues for systemic infection. The radically inclined surgeon follows the practice of early wide incision or excision, while the timid surgeon makes but a small opening and attempts to express the pus by pressure. This latter practice is usually more harmful than beneficial, for by so doing, nature's barrier—the wall of leukocytic and round-cell infiltration—is disturbed, allowing further systemic absorption.

Unfortunately the public does not view a boil as a potentially serious condition. "Just a little boil," unworthy of a doctor's attention, is the common attitude. Home treatment, consisting of some form of poultice, is applied and when the surgeon is consulted the condition is usually no longer a simple boil but a more or less complicated mixed infection, each case requiring individualized treatment.

When a boil is seen in its early uncomplicated state, an area of skin of not less than two inches in diameter should be thoroughly sterilized by the use of three and one-half per cent tincture of iodin. The hair from the infected follicle should be removed, and an alcohol compress applied for one hour. The chief value of the alcohol compress is to remove the excess of iodin to prevent damage to the skin from the subsequent use of a 1 to 3000 $HgCl_2$ hot compresses. This favors localization of the process and tends to prevent infection of other hair follicles through contamination.

If the pathologic process is somewhat farther advanced when first seen, after the hair is removed a drop of phenol may be injected into the follicle, using a very fine needle, or a single punc-

ture, using a fine Von Grafe scalpel, may be made, followed by the hot $HgCl_2$ compresses.

If a central area of gangrene is present, a definite core already formed, a small crucial incision should be made followed by swabbing out the space about the core with iodin, on a small cotton applicator. This hastens separation of the core and provides for free discharge. One should not be too anxious to remove the core, for undue trauma often causes an extension of the infection.

If the process is not seen until there is extensive necrosis or multiple centers of infection—that is until a true carbuncle exists, each center of infection must be treated individually—ever bearing in mind the pathologic process and refraining from opening new avenues for extension of the infection.

The successive development of one boil after another in the immediate vicinity of the primary one is to due to lack of continuing the antiseptic dressing until all purulent discharge has ceased. The use of ammoniated mercury ointment in place of a less antiseptic ointment or vaselin as terminal dressing prevents many subsequent boils.

The successive development of boils in other areas of the body is due to lack of immunity against the staphylococcus and is one of the most difficult conditions with which we meet. The use of vaccines, foreign protein, the intramuscular injection of the individual's blood serum, the administration of calcium, iodin, iron, and arsenic have been used with varying degrees of success.

In conclusion, let me urge conservatism in the surgical treatment of boils, and also most meticulous care and attention to the antiseptic treatment of the involved area.

Worry Over Diet Often Causes More Indigestion Than Foods.—In a recent public health lecture, Dr. C. J. Barborka of the Mayo Clinic, Rochester, Minnesota, deplores the tendency of the public to listen to the cultist. He states:

"It has been generally believed by the laity that the successful treatment of many diseases depended on diet. In the prevention of conditions characterized by degenerative changes affecting the heart, arteries, and kidneys prior to the stage of chronic disability, much may be accomplished by proper diet. That a change in diet may be followed by cure, as many believe, in conditions already characterized by progressive tissue changes affecting the arteries, heart or kidneys is remote. In general, the kind of advice most needed for adult patients refers more to the quantity of food taken rather than to quality.

It is true that in deficiency diseases, obesity, malnutrition, diabetes, pernicious anemia, gastric and duodenal ulcers, and gout, diet is of paramount importance. However, apart from conditions where diet is of importance in relation to disease, we would rather hold to the simple fundamentals of diet for the average normal adult and not follow the fads where a distorted partial truth directs one into misleading statements.

Fads and fancies in diet are the result of misinformation fostered largely by cultists. The faddist finds just as fertile a field in telling us what we should eat as in attempting to make us beautiful or young, or anything else that we are not and that nature never intended us to be. Rejuvenation is simplicity itself in the hands of the beauty specialists and food faddists.

In discussing diets, I would begin by dividing all foodstuffs into three main groups—proteins, carbo-

hydrates, and fats. In addition to these substances the body requires water, vitamins, and certain minerals such as iron, calcium, and phosphorus.

The protein foods are utilized for building up the body tissues. They comprise meats, fish, eggs, cheese, milk, and such vegetables as peas, beans, and lentils. The carbohydrate group creates energy and heat for the body. In it are included the fruits, vegetables, sugars, and starchy foods such as white bread, potatoes, rice, macaroni, and cereals. Fatty foods are likewise required to create heat and energy. Those chiefly used are cream, butter, olive oil, nuts, and fatty meats and fish.

The minerals required by the body, such as iron, calcium, and phosphorus, are found in milk, cheese, egg yolk, and many of the vegetables, particularly lettuce, asparagus, spinach, cauliflower, peas, beans, tomatoes, and carrots. The major part of our diet should be made up of the vegetables, fruits, and cereals. Their food value lies in their carbohydrate content and in their vitamins and mineral salts. The cellulose they contain furnishes the bulk so essential for proper function of the intestinal tract. This principle is exaggerated today, however, because of the popular roughage fad.

Vegetables, fruits, and salads contain much cellulose and for this reason, if for no other, they are required in reasonable amount in the daily menu. But we are besieged from all quarters to eat more roughage. Bran was the forerunner of this fad. While bran has some food value because of its vitamin content, its indiscriminate use as roughage to stimulate intestinal peristalsis is not to be recommended. An excess of roughage, because of its bulk, does not permit the ingestion and assimilation of other foods necessary in securing a well-balanced diet. Furthermore, much of the constipation seen today is of the spastic type in which there exists irritability and spasm of the bowel. Obviously, in such cases too much roughage aggravates the condition, since the excessive stimulation increases the irritability.

Movement to Modify the Abortion Law.—A body of so-called new women who are always leading the van in questions concerning women, visited the home minister in the name of the Association for Reformation of the Abortion Law, in order to hasten the amending of the present law. They declare that the law, made fifty years ago, hardly complies with the need of the nation now and that an amendment is necessary. Their proposed bill would officially permit abortion in the following cases: (1) if conception was caused by violence, threat or fraud; (2) if it can be determined that the embryo is infirm, mentally or physically; (3) if the birth would be a menace to the livelihood of the whole family, destitute at the time; (4) in case of divorce. The authorities seem to believe that such a radical change has little hope of realization. The present law prohibits abortion, unless a physician proves it to be absolutely necessary for the mother's health. Nevertheless, under financial depression and a surplus of population, criminal abortion is done secretly. A few weeks ago the department of home affairs notified the local governments to maintain strict supervision over advertisements of patent medicine, especially those which tempt women to commit criminal abortion. Difficult as it is, the reformation is thought to be only a matter of time. . . .—Foreign Letter Department, *Journal of the American Medical Association*, Vol. 99, No. 17.

Mean Temperature in Healthy Girls.—From observations made in a large boarding school for girls, Paton draws the following conclusions: 1. The normal (or ruling) temperature of girls of from fourteen to seventeen years of age is nearer 97.4 F. than 98.4 F. 2. Girls in whom the mean approximates to 98.4 F. are rare. 3. A temperature of 98.4 F. in the mouth is so suggestive of illness that it should not be disregarded unless no other disturbance of health can be detected.—*British Medical Journal*, July, 1932.

California and Western Medicine

Owned and Published by the

CALIFORNIA MEDICAL ASSOCIATION

Official Organ of the California and Nevada Medical Associations

FOUR FIFTY SUTTER, ROOM 2004, SAN FRANCISCO

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Subscription prices, \$5.00 (\$6.00 for foreign countries); single copies, 50 cents.

Volumes begin with the first of January and the first of July. Subscriptions may commence at any time.

Change of Address.—Request for change of address should give both the old and the new address. No change in any address on the mailing list will be made until such change is requested by county secretaries or by the member concerned.

Advertisements.—The journal is published on the seventh of the month. Advertising copy must be received not later than the 15th of the month preceding issue. Advertising rates will be sent on request.

Responsibility for Statements and Conclusions in Original Articles.—Authors are responsible for all statements, conclusions and methods of presenting their subjects. These may or may not be in harmony with the views of the editorial staff. It is aimed to permit authors to have as wide latitude as the general policy of the journal and the demands on its space may permit. The right to reduce or reject any article is always reserved.

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Leaflet Regarding Rules of Publication.—California and Western Medicine has prepared a leaflet explaining its rules regarding publication. This leaflet gives suggestions on the preparation of manuscripts and of illustrations. It is suggested that contributors to this journal write to its office requesting a copy of this leaflet.

which are sure to come when the present clouds break.

* * *

The 1932 Work of the Component County Societies.—In retrospect, for the California Medical Association the year 1932 may be said to have been one that was marked by real progress. The component county medical associations have all been alert to their responsibilities. In addition to their usual devotion to scientific studies, California Medical Association members everywhere have displayed an increasing interest in developing the social relationships with their colleagues and in stressing studies in medical-economic matters. Institutions and organizations concerned with the public health are receiving special attention from the component county societies. All this bodes well for the morrow. The progress made in 1932 in these matters should be only the foundation for broader study and outlook during the year ahead.

* * *

State Association Activities.—In our state medical organization the activities have been carried on in efficient fashion by the officers and various committees. Special mention must be made of the excellent work done by the Committee on Public Relations and by the Cancer Commission. The preliminary reports already made by these two committees are most creditable and have added to the prestige of the California Medical Association. The work done by these two bodies should be an inspiration to other committees and members to take up their respective duties in equally aggressive and successful fashion. Mention must also be made of the Woman's Auxiliary to the California Medical Association which in its state and county units is functioning in excellent manner. The Woman's Auxiliary has made for itself a real place in California and, if its former wise policies are continued, should become one of the permanent activities of the California Medical Association.

* * *

The Year Ahead.—As to the year ahead, the future is always the future, with its glamour of work to be done and of efforts and missions to be fulfilled. We need worry little about the days after the to-morrows if we will do well all the tasks of our to-days. From reports that come to us from other portions of the United States, the physicians of California have fared as well as most and better than many of their fellows in other commonwealths. There is much public health and medical organization work still to be done in California. If we must make a New Year resolution at the beginning of this year 1933, why not let it be our determination to do our bit in making things better for our profession and our community? It will then follow that things will also be better for ourselves. With stout hearts, hard work and clear thinking, none of the immediate problems which face us should be impossible of solution. So once again, CALIFORNIA AND WESTERN MEDICINE extends greetings and good wishes for the coming year.

EDITORIALS*

GREETINGS FOR THE NEW YEAR

Fare Thee Well, 1932, and Welcome, 1933.—The year 1932 is now of those things that have come and gone. But the year 1933 is at hand and awaiting fulfillment. CALIFORNIA AND WESTERN MEDICINE extends to each of its readers best wishes for a year of satisfactory work in this year 1933. In times such as the present it is not possible to prognosticate with accuracy on matters economic. Members of the medical profession have, however, one advantage over many of their lay fellows in these days, in that physicians can at least have the joy of service even though proper financial rewards for the time may be lacking. If we are not as busy as formerly, we can give more time and study to the patients who do come to us; and we can also take up in earnest some of the reading on subjects in which we have special interest. If in our private and hospital and clinic practice we make the most of the extra time some of us now have, then the year 1933 when it comes to its close may be found to have been one of real value in preparation for the brighter days ahead.

* Editorials on subjects of scientific and clinical interest, contributed by members of the California Medical Association, are printed in the Editorial Comments column, which follows.

**THE FINAL REPORT OF THE COMMITTEE
ON THE COSTS OF MEDICAL CARE**

The Final Report was Given Much Initial Publicity.—Excerpts from the final report of the Committee on the Costs of Medical Care were printed in the December CALIFORNIA AND WESTERN MEDICINE (pages 395-400). We trust they were of sufficient length to permit readers of this journal to orientate themselves on the conclusions reached by the committee of fifty, at the end of five years of studies which were carried on at a cost of almost one million dollars.

It is hoped that every county medical society in California and Nevada will instruct its secretary to order a copy of the complete final report, and that the county society committees on medical economics or special committees will be appointed to make studies and reports thereon.* In the preparation of such reports, county society committees should avail themselves of the information given in the official publication of the American Medical Association—the *Journal of the American Medical Association*. It may be assumed that until the next annual session of the American Medical Association, which will meet in June at Milwaukee, that many of the weekly issues of the national publication will have comment of interest on this report.

* * *

Criticisms by the American Medical Association. Readers of CALIFORNIA AND WESTERN MEDICINE may have noted that when the digest of the final report of the Committee on the Costs of Medical Care was released on November 30 most of the newspapers also printed excerpts from the *Journal of the American Medical Association* editorials which were to appear in the December 3 issue of that publication. Through the forethought of the American Medical Association authorities in providing these advance proof sheets, lay readers throughout the United States were given an opportunity to consider pertinent facts as taken from both the majority and minority reports. This action by the *Journal of the American Medical Association* was not received with great welcome by some of the proponents of the majority report, one news dispatch several days later stating that an organization had been formed to combat the criticisms made in the official journal of the American Medical Association.

* * *

Excerpts from Some Newspapers.—The *Journal of the American Medical Association* of December 10 (page 2034) sheds some interesting sidelights on the forces at work in these efforts. It is gratifying to read in the official national publication the editorials from some of the leading newspapers of the United States and to note that criticisms similar to those of the *Journal of the American Medical Association* were made con-

cerning the final or majority report of the Committee on the Costs of Medical Care. A few paragraphs from some of these newspapers are here reprinted:

From the *Washington Star*:

... Of course, the plan is beautifully idealistic, but why not expand it to include all the other things about which the poor are worried? Why not socialize food and clothing, rent and fuel? Why not socialize education? Why not socialize the lawyers? Why not socialize the clergy? Let there be no mistake about it: If socialization of medical care is right and just, wise and useful, then, by the same logic, a general socialization of life likewise is defensible.

The report is published at a moment when the people are discouraged. It comes as a fruit of the depression. It may be right and it may be wrong. In either case, it is entitled to study. But such examination ought to be unprejudiced. There are two sides to the whole subject, and both should be considered. It should not be forgotten that the American people are the healthiest people in the world and that their ordinary state of well-being, culture, and prosperity was achieved under what is traditionally known as the American system of civilization, not the Marxian system.

* * *

From the *Boston Evening Transcript*:

As a flight of fancy, the majority report of the Committee on the Costs of Medical Care may prove entertaining. It reads like a chapter in a book descriptive of the world conducted on a near-socialistic basis. . . .

Thereafter, it is reasonably safe to predict this report, like so many others that created excitement upon their appearance, will find place in a pigeon hole, for the time is not yet, if it is ever to arrive, when more than passing notice will be given to proposals to put the Government into medicine on a scale that would tend to make medicine a Government monopoly.

* * *

From the *New York Herald-Tribune*:

... With the report itself there also appear two minority reports, the first with exceptionally heavy support, opposing every suggestion of "mass production." This has been given prompt and vigorous endorsement by the American Medical Association, and this has in turn elicited from Mr. Morris Llewellyn Cooke, the new chairman of the Wilbur committee, a public statement in which the spokesmen for orthodox practice are called a "bureaucracy" and denounced for "pussyfooting and compromising." Doubtless there is more of this to come.

Meanwhile the Wilbur report does lay itself open to suspicion by appearing to favor community or state support for what *The Journal of the American Medical Association* calls "medical soviets" and by making this suggestion overlap upon that of a contract or insurance system. It takes little imagination to see how state support for a kind of medical guild might grow into a political "racket," under which a professional hierarchy would control admission to the guild, the citizen taxed for its support would have no choice of doctor or treatment and the taxpayer's redress for inefficient or perfunctory service would involve something like a Seabury inquiry. The contract system itself is not new. It is pronounced a success in some parts of the world, but has yielded in others a fine crop of unethical practices, as "Minority Report No. 1" points out. Divorced completely from the idea of state support, the public might concede it the right to prove itself by experiment and experience, but not otherwise. . . .

... The imposition of such a system on the public by propaganda and legislative action cannot be too

* Copies of the Final Report of the Committee on the Costs of Medical Care, known as Publication 28, may be ordered from the University of Chicago Press, 5750 Ellis Avenue, Chicago, Illinois. Price per copy, \$1.50.

strongly discountenanced. There is no use saying that the Wilbur committee's system would not go this far, for bureaucracies are never satisfied with small degrees of control over individual liberties. The time to check the growth of such ideas is at their inception, which in this case is the immediate present, and we sincerely hope that the orthodox medical bodies will succeed in doing so.

* * *

From the New York Evening Post:

The Wilbur Report.—The medical world and the world at large should be very wary about accepting the majority report of the Committee on the Costs of Medical Care of which Secretary of the Interior Ray Lyman Wilbur is the chairman. It recommends, as the *Times* briefs it, "socialization of medical care for the people of the United States, based on a system of group taxes and group payments, with community medical centers to provide complete medical service, both preventive and therapeutic, in return for weekly or monthly fees, in the form of insurance, taxation, or both."

We consider this program doubtful in wisdom. It is dangerous from the standpoint of the patient. It creates malingerers. It makes self-pitying hypochondriacs out of people who are free to go to a physician at any time without extra cost.

Secondly, it is bad for the physician. The best physician has been the highly individualistic "old country doctor." The worst has been the "company doctor." Secretary Wilbur's socialization plan seeks to turn the first into the second. . . .

* * *

From the Philadelphia Record:

What's wrong with medical practice?

An eminent committee headed by Secretary of the Interior Ray Lyman Wilbur, arch-reactionary, has spent a lot of time and money trying to answer this question, and has succeeded only in out-Wickershamming the Wickershamers.

Characteristic of this topsy-turvy time, the conservatives have delivered a majority report which involves radical socialization of medicine under bureaucratic government control. . . .

. . . The *Record*, for one, has too great a faith in the intelligence and humanity of the medical profession to think that it cannot cure itself of what are, after all, minor faults. This plea for socialization need not be taken seriously.

Advancement of medical science demands medical centers with equipment and specialists. But this does not necessitate Government subsidy and bureaucratic control.

Medicine must not be socialized.

* * *

The Medical Profession Should Be Informed. The above excerpts indicate the great interest which is taken in this final report by newspapers and publicists. In the coming several years we may expect much magazine and other comment. Not all of it will be kindly disposed to the minority report or to the medical profession. The best way in which the medical profession can meet criticisms will be for its members to be well informed on the subjects discussed in the final report. Therefore, to repeat, if you do not purchase a copy of this final report on your own account, at least see to it that your county society purchases a copy for its library, so that a report and discussions thereon may be made at early meetings.

NEW HOME OF THE LOS ANGELES COUNTY MEDICAL ASSOCIATION

Long-Wanted Home a Realization.—The Los Angeles County Medical Association, with its more than two thousand members, is one of the large county medical societies of the United States. Some twenty years ago a sincere effort was made to launch a medical office building with county society headquarters on a site at the southeastern corner of Sixth and Olive Streets, Los Angeles. That effort was unsuccessful and meant financial loss to all those who invested. Later, on the advice of the then secretary, Dr. Harlan Shoemaker, the association was fortunate in the purchase of property for a new home. Some of these Wilshire district lots were leased to a medical building corporation, composed now largely of physician stockholders. In a resale of some of the properties it has been possible to acquire a new site on which the beginning of a permanent home has been made. In the Miscellany department of this issue are printed some excerpts from the *Bulletin* of the Los Angeles County Medical Association, outlining what has been accomplished. (See page 66.)

* * *

The Profession Extends Congratulations.—The members of the California Medical Association residing in other counties congratulate the Los Angeles County Medical Association on this final realization of long deferred hopes, and trust that in the near future a modern library unit, which is contemplated, will go on to construction. In this library unit it is hoped to provide quarters for both the Barlow Medical Library and the Los Angeles branch of the State Medical Library. With the fruition of such plans, the Los Angeles County Medical Association will have created for itself on its own properties a real medical center, and one which will be a great credit to the organized medical profession of California.

Teaching of Ophthalmology.—At the recent annual meeting of the American Academy of Ophthalmology and Otolaryngology in Montreal, a special committee on undergraduate teaching of those specialties, after a study conducted during the past year by means of questionnaires, made the following recommendations:

1. Ophthalmology should be a compulsory subject in both didactic and clinical phases.
2. The undergraduate course in ophthalmology should embrace fifty actual hours as a minimum, which should be given during the junior and senior years, divided into fifteen didactic hours and thirty-five clinical hours, in which the student examines patients in the outpatient department.

It was further recommended that new instructors should be accepted in medical schools only after certification by the American Board of Ophthalmic Examinations or the American Board of Otolaryngology. The academy also organized a committee on extramural instruction to assist medical schools and societies to arrange courses of instruction. To this end the committee has developed a list of specialists who are available in giving local courses and will furnish lists of teachers on any desired subject, according to ability, geographic location and availability.

EDITORIAL COMMENT

This department of California and Western Medicine presents editorial comment by contributing members on items of medical progress, science and practice, and on topics from recent medical books or journals. An invitation is extended to every member of the California and Nevada Medical Associations to submit brief editorial discussions suitable for publication in this department. No presentation should be over five hundred words in length.

Drainage.—The question of drainage is one of the most important with which the surgeon has to deal. In the annals of surgical literature within the last three decades one finds many and varied opinions on the subject. Much experimental work has been done to demonstrate that drainage of the peritoneal cavity as a whole cannot be accomplished. This work has done much to unify the opinions on the subject in recent years. However, there still are differences of opinion among well-trained men as well as differences in practice.

Only a few years ago everyone accepted the principle that when there was doubt, drain. At the present time many reverse this dictum. It is difficult in a short space to correctly and vividly give circumstances illustrating the choice of wisdom. However, whenever there is frank contamination of the peritoneal cavity and indurated, gangrenous tissue, or large attached clots of fibrin remaining, the safest procedure is to drain. If the source of the contamination cannot with certainty be stopped, not to drain would be poor surgical judgment. Let us understand that if the peritoneal cavity is contaminated, and no residual dead tissue or possible further contamination exists, certainly drainage is of no use, and would definitely decrease the ability of the peritoneal cavity to handle the infection. In this situation nothing by mouth, not even water, and adequate morphin will splint the intestines and aid the patient more than any drain. I am still of the opinion that when, after deliberation, doubt exists it is much safer to drain. I have never regretted draining and cannot say as much on the other side of the question.

Something should be said about the adequacy of the drainage. Observations lead one to the conclusion that drainage is often inadequate. If the abdominal wound is sutured tightly about a drain, the drain cannot serve its purpose. In a large infected cavity with infection not well localized, plain gauze packing diverts the flow of lymph and serves admirably if placed in strips in an orderly fashion so that at least some of it can be removed within twenty-four hours without pain to the patient. Because of fistulas from erosion, hard rubber tubes are dangerous. Rolled rubber tissue is preferable when the infection is well localized. If a drainage cavity contains débris and dead tissue the drain had better be left for several days. Otherwise twenty-four to forty-eight hours are sufficient. Drainage following cholecystectomy should be left five days because of the leakage of large quantities of bile from the cystic duct, which occasionally occurs and leads to disaster to

the patient if an exit for the bile is not present. Recent experiments on "bile peritonitis" with anaerobic infection have removed the mystery which formerly existed regarding the dramatic nature of these deaths.

One is also forcibly impressed by the necessity of adequate incisions for drainage of infection in tissues other than body cavities. This is more particularly true of infections about the hand, where many planes exist through which pus can easily spread and do irreparable damage in a very short time. The incision should be large enough and so placed, with a view toward the future function of the hand, to relieve all pressure and establish lines of least resistance to the surface for the pus to follow. If this is done it is not necessary to insert scar-stimulating foreign material for drainage.

Adequate incisions relieve tension on the tissues, allow better blood supply and greater resistance to infection with less loss of tissue by necrosis. Such incisions will heal more quickly than smaller ones that do not prevent unnecessary tissue necrosis. There are but few infections with which the tissues cannot cope if proper early drainage is established.

To philosophize, the well-being of the human race depends in many respects upon drainage. Obstruction to the gastro-intestinal tract, the bile tract, the bronchi, the nasal accessory sinuses, etc., leads to various and well-known difficulties and often death. The female becomes unhappy, has a "good cry," and obtains relief by emotional drainage. Many women do not feel well if their menses are scanty. A man mashes his finger, curses, gets drainage and feels better, and so on, and so on, approaching infinity.

490 Post Street.

LEROY BROOKS,
San Francisco.

Prone Knee Flexion: In Differential Diagnosis of Low Back Pain.—Many manipulative tests are in use throughout the world in the differential diagnosis of low-back pain, but of these Lasegue's is probably the best known. This consists in flexion of one hip with the knee in full extension, the patient lying on his back, and therefore is briefly described as "supine straight leg raising." The purpose of this test is to increase the tension of the tissues on the posterior surface of the thigh and cause pain in the sciatic nerve when this structure is inflamed. By tension on the hamstrings, the ilium is rotated posteriorly and pain is produced in an inflamed sacro-iliac joint. Carried further, through the medium of a

normal sacro-iliac joint, the sacrum also is rotated posteriorly, the lumbar lordosis decreases, and pain is produced in the opposite sacro-iliac joint when inflamed.

Several tests have been devised to produce an effect upon the sacro-iliac joints comparable to supine straight leg raising, but tending to produce the opposite rotation. Prone straight leg raising accomplishes this, as does Gaenslen's test. In the latter the patient lies in lateral decubitus, with the inferior hip and knee flexed and the knee grasped in his hands to maintain flexion, while the examiner extends the superior hip. Still another way of producing forward rotation of the ilium is to allow one lower extremity to hang off the examining table while the patient lies supine. All these tests depend upon two structures for the transmission of force to the ilium: (1) the anterior thigh muscles that attach near the anterior superior iliac spine (rectus femoris, sartorius, tensor fasciae femoris), and (2) the anterior capsule of the hip-joint, or "Y" ligament.

Because none of these maneuvers is easy, especially where the patient is in severe pain, for the past four years I have been studying the use of prone knee flexion as a diagnostic test. With the patient lying face down on the examining table (a position usually found comfortable, even when back pain is severe), the examiner places one end of a ruler on the sacrococcygeal junction, and with his other hand flexes each of the patient's knees, in turn. If the patient is coöperative and relaxes, a point will be found where involuntary resistance is encountered, and the leg will tend to bounce slightly upon the tense anterior thigh muscles. At this point the distance between the heel and the sacrococcygeal junction is to be noted. Forcing the flexion beyond the point of resistance by tensing the anterior thigh muscles tends to rotate the ilium anteriorly and cause pain in the sacro-iliac joint if inflamed. Carried further, through the medium of a normal sacro-iliac joint, the sacrum tends to be rotated anteriorly, the lumbar lordosis increases, and pain is produced in the opposite sacro-iliac joint when inflamed. Prone knee flexion, unlike supine straight leg raising, causes no confusion in the differential diagnosis between inflammation of the sciatic nerve and inflammation of the sacro-iliac joint. Nor does it depend upon the ligaments of the hip-joint for transmission of rotatory force to the ilium.

Dr. Leonard Ely has noted that under certain circumstances prone knee flexion causes an involuntary elevation of the pelvis from the table, and although he has never published this observation, elevation of the buttock in prone knee flexion has come to be known as "Ely's sign" in and about San Francisco. This he interprets (personal communication) as indicating a lumbar spine so sensitive or rigid that the patient must elevate the pelvis (thereby flexing the hip and relaxing the tension on the anterior thigh musculature) as the knee is passively flexed.

The excursion of the leg in prone knee flexion is asymmetrically decreased in inflammatory proc-

esses of the sacro-iliac joint, the decrease usually being found on the same side as the decreased excursion in supine straight leg raising. In torsion injuries of the pelvis, prone knee flexion is frequently decreased on one side and supine straight leg raising is decreased on the other. This test and the data to be gleaned from its use will be discussed in greater detail in a paper on sciatic scoliosis, now in preparation.

490 Post Street.

HORACE C. PITKIN,
San Francisco.

Columbia University Patents Vitamin D Product and Supervises Its Use for Public Good.—A plan for the eradication of infantile rickets, a very common disease in its milder forms, has been developed at Columbia University and is being placed in operation in several cities, according to a statement by Dr. Theodore F. Zucker of the College of Physicians and Surgeons, Columbia University, in an address which he made before a meeting of the New York Chapter of the American Institute of Chemists held in the auditorium of the McGraw-Hill Building.

This plan is based on a process worked out by Doctor Zucker for concentrating the vitamin D content of cod-liver oil in a solution which can be added to bread and milk. If the use of these common foods so treated becomes general, Doctor Zucker said, rickets will vanish as a public health menace because vitamin D is known to be a preventive of this disease.

In order to administer this discovery for the general good, it was patented and the patent assigned to University Patents, Inc., a board set up by Columbia University, Doctor Zucker explained. A license to manufacture and distribute the concentrate was granted the National Oil Products Company of Harrison, New Jersey, which in turn sublicenses bakeries and dairies to use the concentrate in their products. The university exercises strict supervision over the manufacture, application and promotion of the concentrate, the prices charged for the products containing it, and otherwise safeguards the public interest. It devotes the royalties received to research work.

"Infantile scurvy was once a widely prevalent disease," said Doctor Zucker in discussing the subject of "Vitamin Research and Public Health," "but it is now nearly unknown except in very ignorant or highly destitute surroundings. It was overcome through the recognition that the cause of the disease is lack of vitamin C and that this vitamin can be administered through the use of orange or tomato juice. In a similar way, rickets can be eliminated by the administration of vitamin D."

Doctor Zucker described the process by which he extracted the vitamin D content from cod-liver oil and concentrated it in a solution that is one thousand times more potent in this rickets-preventing factor than the original oil, and that can be added to various foods without affecting their flavor. The efficiency of the concentrate in curing rachitic children has been shown by tests that have been made in the children's clinic of the Bellevue Hospital, the Children's Hospital at Detroit, and several other health centers, he said.

"There are other ways of supplying vitamin D through the diet," he pointed out, "such as by irradiating milk by means of ultraviolet light. But the use of the natural vitamin D concentrate of cod-liver oil provides a means of making available and putting within reach of everyone articles of everyday food which will serve as a rickets-preventive for infants and a regulator of mineral metabolism for the growing young. We have high hopes that through this modest contribution of ours we can aid in the task of eradicating rickets."

C. M. A. DEPARTMENT OF PUBLIC RELATIONS

An open forum for progress notes on the department's activities, and for brief discussions on medical economics. Correspondence and suggestions invited. Address Walter M. Dickie, Room 2039, Four Fifty Sutter Street, San Francisco. This column is conducted by the Director of the Department.

THE ADMINISTRATION OF MEDICAL CARE

Some Principles Which Must Predominate In Any Plan

Some of the principles which have long predominated in the practice of medicine are stated below. In the interest of the public good and the future of the medical profession, there should be no lowering of standards because of financial stress or temporary expediency. On the contrary, it may be possible that these principles can be strengthened and others of importance may be added.

1. The welfare of the public is of primary importance. Exploitation of the public for economic advantage and financial gain is inimical to good medical service.

2. The unity of medical organization must be preserved for the protection of the public welfare and the advancement of medical science.

3. Free choice of physician must be guaranteed.

4. Opposition to unfair competition among physicians must be maintained. Any distribution of medical service which depends on compulsion for its acceptance and use establishes an unfair competition among physicians and introduces a monopolistic control of medical care.

5. Sacrifice of quality of medical service through the action of commercial competition must not be tolerated.

6. No form of solicitation or compulsion must be exercised on patients to compel them to enter into any system of medical care. Any deviation from this principle subjects medical qualifications and care uniformly to financial considerations.

7. Full responsibility for the determination of professional qualifications and ethics and adequacy of medical service must be vested in the medical profession.

8. Compensation for medical care should be adequate to insure competent service.

9. Preventive or preclinical medicine must not be neglected.

10. Any change in the method of administering medical care should always be preceded by careful and thorough study by the medical profession. Change is justified only on the premise that the new methods to be adopted are superior to the old which they supplant.—R. G. Leland, M.D., *American Medical Association Bulletin*, October, 1932.

1 1 1

AN EQUITABLE DISTRIBUTION OF GROUP INCOME

Based upon an experience of nearly ten years, I am suggesting the following method of equitably calculating the percentage of net income from a partnership or group practice unit, which should go to each member so that each member may receive as exactly as possible the amount he has earned.

The plan is to calculate the percentage of the various activities of the firm performed by each member: the work done in office calls, charged and free; the house and hospital visits, charged and free; the amount charged and the amount collected, and an arbitrary factor of good will.

Into this item of good will can be credited by mutual agreement all the obvious but unmathematical differences in value of each member to the firm; age, experience, length of residence, reputation, skill, spe-

cialty. For instance, the pathologist compared with the surgeon; the new member and the well-established member, etc. This proportionate value must be more or less arbitrarily fixed from time to time by mutual, frank discussion in the full spirit of coöperation and fair play. It is obvious that without this spirit no partnership or group can succeed.

In actual practice the figures work out as follows, the first figures being the percentage of the total work and calls for each member for the preceding month or six months. All of these figures except "good will" were taken from actual experience.

	Dr. A.	Dr. B.	Dr. C.	
Work Percentages				
Office—no charge	12.61	44.50	42.89	100%
Calls—no charge	18.97	48.15	32.88	100%
Total office	22.96	43.38	33.66	100%
Total calls	13.34	47.09	39.57	100%
400 per cent	67.88	183.12	149.00	
100 per cent	16.97	45.78	37.25	
Cash Percentages				
Business, per cent	20.47	45.79	33.74	100%
Cash total	24.78	44.34	30.88	100%
200 per cent	45.25	90.13	64.62	
100 per cent	22.62	45.07	32.31	
Final Percentage				
Work, per cent	16.97	45.78	37.25	100%
Return, per cent	22.62	45.07	32.31	100%
Good Will, per cent	35.00	40.00	25.00	100%
300 per cent	74.59	130.85	94.56	
100 per cent	24.86	43.62	31.52	

Final percentage to be used for distribution of net income to be applied to either a preceding period or to a succeeding one.

The items in the partnership agreement covering these calculations read as follows:

The secretary shall keep a careful record of all work done by each member. Such record shall show daily:

1. The amount of work done.
 - a. Number of visits charged.
 - b. Number of visits no charge.
 - c. Number of office calls charged.
 - d. Number of office calls no charge.
2. Monetary value to firm.
 - a. Total earned.
 - b. Total collected.
3. Such other records as may from time to time be agreed upon, as number of anesthesias, amount of laboratory work, number of operations, an arbitrary per cent allowance for surgical or other specialty fees, etc.

At the first of January and the first of July, or at more frequent intervals, a total of these records for each partner for the past six months shall be made and a percentage of the total work done by the partner for the past six months shall be made and a percentage of the total work done by each member shall be calculated in separate figures as measured in "work" and as measured in "monetary value" (marked "cash" on sheet), and as measured in "good will."

The total of these percentages gives an accurate picture of the relative worth to the firm of each member and form an equitable basis for the division of net income. These percentages may be made to apply to the past month or half year, or to the coming month

or other period, as desired. Other factors of earning capacity may be from time to time mutually agreed upon, *i. e.*, the number of operations, obstetric cases, laboratory work, anesthetics, etc.

New members can be easily added to the group or old ones permitted to withdraw by fixing the present value of assets by agreement or arbitration, and admission or release from this percentage calculation. The factor of "good will" acts as a buffer to adjust actual or fancied unmathematical values in personalities, mental equipment, skill, etc.

Twice each year for nearly ten years the sheets upon which these calculations were made were studied by each of the three members of the firm and at no time was there any suggestion of inequity in the final figures.

The calculations are simple percentages, and the several secretaries employed during this time had no difficulty at any time nor did they complain of the few minutes per day devoted to them.

I should have enjoyed trying it out on a group of ten or a dozen.

C. VAN ZWALENBURG, M. D.,
Riverside.

1 1 1
VARIATION IN COST OF MEDICAL SERVICE

In formulating a medical service plan for group practice on a periodic payment basis, we have to consider the question of cost to the individual, and whether the same is within his ability to pay. Naturally the cost of medical service will vary according to the conditions existing in the individual community. In taking up the study of this subject, one cannot help but be impressed by the utter lack of statistical figures on the cost of medical service to the individual.

Dr. Michael M. Davis, in his book on "Paying Your Sickness Bills," sets forth various studies of small groups of families, one of which is a 12,000 family group which was surveyed by the United States Bureau of Labor Statistics. This number was divided in seven groups, according to their income per annum, ranging from those under \$900, up to and including \$2,500 and over. It is surprising to note that the percentage spent for medical care in all these groups was approximately four per cent of annual income, and the amount spent varied from \$34 in the group whose income was under \$900, to \$95.56 in the group with incomes of \$2,500 or over. The average amount spent was \$60.39. There was a gradual increase according to the income of the family.

It is difficult to account for the large variation in costs unless we assume that those in the lower brackets of income received inadequate medical care.

We also have a study of another group of some 17,000 persons in which the average yearly expenditure per family amounted to \$140. In this survey, one of our national life insurance companies found that in a group of 3,281 families among industrial policy-holders, consisting of 17,129 persons, only 198 families reported no expenditure for sickness. However, a grand total of \$230,907 was spent by all families, over a period of six months, making an average expenditure per family of \$70, or \$140 a year. Again the disproportion of disbursements for sickness was marked: 64 per cent of the total amount having been expended by 20 per cent of the total number of families.

In a preliminary report made by the Committee on the Costs of Medical Care it was shown that out of a group of 4,560 families whose annual incomes varied from \$2,000 to \$5,000 that the average cost of sickness per family ranged from \$71.48 in the lowest income group to \$311.06 for the group with incomes of \$5,000 or over. Families with incomes of less than \$1,200 averaged \$66 expenditure. Expenditures in all groups represented about five per cent of income.

From these figures and others that are available, it would seem that the average family of moderate means spends on an average of from \$60 to \$140 a year for medical service, there being a very rapid rise

in expenditure with increased income. Expressed in terms of percentage the amount spent ranges between four and five per cent of annual income.

We have no way of determining whether or not the medical care in the lower brackets of income was in any way adequate, nor to what extent the services of a physician were employed. It would probably be more conservative to take the cost of medical care as indicated in the higher brackets, which would place the expenditure of the average family near the maximum average of \$140, rather than the minimum average of \$60 per year.

We also find that the cost of medical care varies according to the particular locality in which the study has been made. For instance, the cost of medical care shows a wide degree of variation between the eastern and western states, averaging \$52 annual expenditure per family along the Atlantic seaboard, and \$73 for the average family living in the West.

In a further analysis of the cost of illness, we find that a group study of 17,000 illnesses, made by the United States Public Health Service in Hagerstown, Maryland, recorded the following kinds of care:

	Per Cent
Private physicians	46.00
Medical care in hospital	1.34
Chiropractors and osteopaths	0.41
Self-medication	2.25
No form of care reported	50.00

In returning to the original survey of 12,000 families made by the United States Bureau of Labor Statistics, we find that the average annual expenditure of \$60.39 per family was spent in the following manner:

For physicians	\$32.17
For medicine	10.39
For dentist	8.23
For hospital care	4.56
For nursing care	3.02
For eyeglasses	1.75
For miscellaneous services, etc.	0.27

The foregoing surveys and others which have been made indicate the wide variance in the cost of medical care among families of moderate income, and just what the basis of a fee schedule should be can best be determined when some county medical society undertakes to furnish adequate medical service on a stipulated periodic payment plan.

Water-Front Safety Activities.—During the past five years there has been a constant effort to reduce the accident rate among the stevedoring companies and marine interests on the Pacific Coast. A steady improvement is noted. The Pacific Steamship Company at San Francisco has recently completed 100,000 longshoreman hours without a lost-time injury. Chief Stevedore Julius Tillman, supported by his immediate chief, Port Captain C. Hansen, and his operating manager, W. P. Bannister, has achieved this result. One gang boss has a record of over three years without a compensable injury. Too much credit cannot possibly be given to an organization of this sort when it accomplishes such work, and each man participating deserves to be congratulated.

Iodized Salt and Goiter Surgery.—McClure points out that there has been a tremendous reduction in the incidence of nontoxic diffuse goiter since the introduction of iodin salt in Michigan. There has also been a marked dropping off in the number of goiter operations in the Detroit and Ann Arbor areas since the introduction of this salt. The number of all operations has increased, so that relatively there is a still more marked drop. The author does not conclude from these facts that iodin deficiency is the only cause of goiter but he does believe that, if the thyroid can be kept in its normal state by a sufficient intake of iodin, toxic diffuse and nodular goiters are less apt to develop.—*Wisconsin Medical Journal*, August, 1932.

CANCER COMMISSION OF THE C. M. A.

The Cancer Commission was brought into being by the House of Delegates of the California Medical Association to aid in the furtherance of all efforts to combat cancer. The roster of officers and the central office of the Commission to which communications may be sent is printed in this issue of California and Western Medicine (see front cover directory). This column is conducted by the Secretaries of the Commission.

REPORT OF THE COMMITTEE ON RADIOLOGY*

II

RECTAL

It was generally agreed that in "operable" cases of rectal carcinoma surgery should be elected.

It was the consensus of opinion that a combination of gold seeds, heavily filtered surface applications of radium, and high voltage x-ray had a field of usefulness in the treatment of rectal malignancies, the size and position of the growth causing a wide variation in the technique of treatment. It was thought that in practically no case could any one of these single methods be used and sufficient dosage obtained to destroy all the malignant cells. It was generally agreed that high voltage x-ray should precede the local application of radium. Palliation consisting of lessening of bleeding, partial destruction and retardation of the growth, relief of pain, and prolongation of life was reported. Six men reported as having seen five-year cures from radiation alone in rectal carcinoma. It was agreed that the value obtained from preoperative radiation, as evidenced by palpable shrinkage of the growth was sufficient to offset the delay in operation caused by the high voltage x-ray treatments. The general opinion was that operation should not be done until at least four weeks after the last x-ray treatment.

The majority advised preliminary colostomy before the institution of radiation therapy in rectal cases. If a period of four weeks (more or less) is planned between colostomy and operation (as many advise), radiation given immediately following colostomy offers practically no delay of the final operation.

It was stated that cases clinically inoperable or on the border line of operability may be rendered operable by preliminary radiation.

BONE TUMORS

Almost everyone answering the questionnaire had seen both palliative and curative results from radiation treatment of giant cell tumor of bone, a number of five-year cures being reported. The majority had seen palliative results in osteogenic sarcoma (50 to 75 per cent), osteochondroma, Ewing's tumor, and metastatic bone growths. One case of a five-year arrest by radiation was reported as being round cell sarcoma, and another as metastatic lymphosarcoma. The majority advised preoperative radiation in bone tumors suspected of being malignant. This can often be carried out while diagnostic studies are being made, including consultations. Response to radiation therapy may in itself be of diagnostic significance. The radiation treatment of bone tumors consists of thorough saturation with high voltage x-ray.

LYMPHOGRANULOMATA (HODGKIN'S, LEUKEMIAS)

Practically everyone used x-ray therapy entirely instead of radium in treating these conditions. The usual method was small doses over long periods of time, according to the progress of the disease and the condition of the patient. Most used low voltage technique, reserving high voltage for mediastinal and deep gland involvements in more resistant cases. The majority reported that all cases had shown palliative improvement from radiation treatment except a few cases of acute leukemia. Even the majority of cases of acute

leukemia had shown temporary palliation. It was generally believed that radiation prolongs life in both Hodgkin's and leukemia. Many reported that the average life of their treated cases had exceeded the average life of untreated cases from one to six years.

GENITO-URINARY—MALE AND FEMALE

Testicular Tumors.—In testicular malignancies the majority advised preoperative radiation before the surgical removal of the primary lesion. The time interval recommended between the last radiation treatment and operation averaged from four to six weeks, insuring time for complete radiation effects to take place. All agreed that radiation was superior to any operative interference on the abdominal lymph gland metastases in these cases. Five men had seen definite five-year cures by radiation of the abdominal lymph glands.

(Note.—The Committee on Genito-Urinary Tumors advises distinction between seminoma and teratoma, the former sensitive to radiation, the latter not; therefore it recommends radiation of the abdominal gland region after orchidectomy for seminoma and, on the other hand, radical dissection of the abdominal nodes for malignant teratoma, pointing to records of a number of cures by the latter method. Also, on account of the frequent very rapid growth and spread of teratoma, biopsy diagnosis and immediate removal of the testis is recommended without the four to six weeks' delay for preoperative radiation.)

Kidney Tumors.—The majority had not seen five-year cures by radiation alone in kidney tumors. Four men reported five-year cures. The majority advised preoperative and postoperative radiation in the treatment of kidney tumors. Practically all had seen definite palliative effects from radiation of inoperable kidney tumors, these effects being lessening of hemorrhage, lessening of pain and diminution in the size of the growth.

Bladder Tumors.—Preoperative radiation of bladder tumors by means of high voltage x-ray was generally advised. This, followed by electrocoagulation of the bladder tumor with implantation of gold radon seeds, was thought to be the best technique. Postoperative high voltage radiation was also advised. Two cases of five-year cures of bladder tumors from radiation alone were reported. About ten cases of five-year cures were reported following a combination of surgery and radiation. (For further details, see report of Genito-Urinary Tumors Committee, CALIFORNIA AND WESTERN MEDICINE, 37:333.)

Prostate Malignancies.—High voltage x-ray was considered to be of definite palliative value in inoperable carcinoma of the prostate in about 75 per cent of the cases. In recurrent postoperative carcinoma of the prostate, radiation was generally agreed to be of value although the majority did not state in what percentage. About one-fourth of the men considered it to be of value in about 50 per cent of the cases. The majority did not favor the interstitial application of radium to the prostate through the perineum by means of steel needles or gold seeds. Some thought too much irritation was produced and too little palliation to justify the procedure. Five men had seen five-year cures in carcinoma of the prostate from radiation alone. (See report of Genito-Urinary Tumors Committee.)

MALIGNANCIES OF FEMALE ORGANS

Vulval or Vaginal Malignancies.—In vulval and external vaginal lesions the majority advised surgical removal of the local growth, followed by radiation. It

* Part I of this Report was printed in the December California and Western Medicine, page 409.

was advised that the smaller lesions be treated either by gold seed radon implantation or heavily filtered surface radium application, followed later by x-ray therapy over field and glandular areas. The majority had seen cases, recurrent after operation, cleared up temporarily and for five-year periods by radiation methods.

(Note.—The Committee on Gynecologic Tumors calls attention to wide variance of opinion—with regard to surgery alone, radiation alone, combination of the two—and suggests that intelligent decision may well be based on the degree of malignancy shown by biopsy. Highly malignant growths do poorly after surgery and are susceptible to radiation, at least for palliation; less malignant tumors are not so sensitive to radiation and have better chance for cure with surgery for both primary and metastatic lesions. (See Gynecologic Report, CALIFORNIA AND WESTERN MEDICINE, 37:131.)

Ovarian Malignancies.—In operable ovarian malignancies everyone advised surgical removal of the primary tumor (with hysterectomy) followed by high voltage x-ray therapy as the proper procedure. It was not considered wise to advise attempts at removal of metastatic masses. Some thought this feasible if the masses were causing obstructive symptoms. The majority had seen definite palliative results from the high voltage x-ray treatment of metastatic ovarian carcinoma. Estimates varied from 10 to 50 per cent. Five men had seen five-year cures. (For further details, see Gynecologic Report.)

Uterine Malignancies.—There was practically a unanimous agreement that all cases of carcinoma of the cervix should be treated by radiation, even the small involvements limited entirely to the cervix. A few members of the Gynecologic Committee still adhere to hysterectomy for very small growths limited to the cervix. One member specifies this limitation to growths of low-grade malignancy as determined by biopsy. This group, however, comprises an extremely small percentage, and for the overwhelming majority of cervical carcinomas the opinion of both committees is unqualified that radiation (radium plus deep x-ray) should be used to the exclusion of surgery. (See Gynecologic Report, CALIFORNIA AND WESTERN MEDICINE, 37:131.)

Also, it was generally agreed that high voltage x-ray therapy should be used in conjunction with radium therapy, being given preferably before the radium series. A more or less standardized method of radium application was advised, such as the Stockholm type of technique or a slight modification of this. A few followed the Regaud type of application. Filtration the equivalent of from one to two millimeters of platinum was used. Total dosage varied from 2,000 to 3,000 milligram hours intra-uterine and from 3,000 to 4,000 milligram hours vaginal with Stockholm technique, a total of as high as 7,000 to 10,000 milligram hours being used in the Regaud or more prolonged type of application. The high voltage x-ray therapy should be given according to saturation dosage methods, with measurement of patient and careful computation of dosage in international roentgen units and depth dosage. Cases should be individualized as to dosage given, but the majority advised making an attempt to give full dosage even in advanced uterine cases with extensive pelvic gland involvement.

The majority agreed that in carcinoma of the fundus, where the growth was apparently entirely limited by the walls of the uterus, hysterectomy is the method of choice. Some had used radium preoperatively in carcinoma of the fundus, followed by hysterectomy about four weeks later. Eight advised the use of high voltage x-ray in conjunction with radium in cases of carcinoma of the fundus treated by radiation alone. The dosage of radium in these cases varied from 3,000 to 6,000 milligram hours total, with the equivalent of one or two millimeters of platinum filter.

THYROID MALIGNANCIES

In the treatment of thyroid malignancies, high voltage x-ray or radium (distance packs) or a combina-

tion of these two is recommended. No one had used interstitial radiation in thyroid malignancy. Some were beginning to use the Coutard technique in these cases. Six men had seen five-year cures in thyroid malignancies, a total of sixteen cases being reported. Palliation, consisting of relief from pain, diminution in the size of the growth and lessening of pressure symptoms, was reported as occurring in from 25 to 100 per cent of cases following radiation therapy.

The above comments refer to methods of radiation treatment for preoperative and postoperative use and for inoperable cases. For discussion of surgery in thyroid malignancy, see report of Thyroid Tumors Committee to be published later.

BREAST CANCER

The majority did not believe it acceptable, under present knowledge, to depend entirely upon radium and x-ray therapy in operable cases, as radical surgery is apparently the method of choice. Eight, however, believed it justifiable especially in cases which were poor surgical risks and where operation is contraindicated. Attention is called to the development of a combination of interstitial and external radiation for carcinoma of the breast. It is possible that this method will yield better results than previous forms of radiation, and its value compared with that of surgery will have to be evaluated after further experience.

It was almost a unanimous opinion that preoperative radiation increased the number of five-year cures in breast carcinoma. The majority used high voltage x-ray in the preoperative breast treatment. Some used radium interstitially. In the preoperative treatment an attempt is made to give the dosage in a few days (one week to ten days), the surgery following on an average of about four weeks after the last treatment. The optimum time relation of preoperative radiation and operation is apparently not yet satisfactorily settled. (See Breast Report, CALIFORNIA AND WESTERN MEDICINE, 37:267.)

Postoperative radiation was advised by practically everyone as a routine. The great majority believed this valuable from their own experience. Usually a thorough course of treatments was given shortly following operation and repeated in from two to three months. A few preferred waiting for further treatment until signs of recurrence appeared. The committee felt that localized recurrent nodules in the field of operation could be treated either by surgical excision or by radiation, or by a combination of both methods. If the recurrences are multiple, then radiation alone is the preferable method of treatment. The majority had seen cases with postoperative recurrence which had cleared up following radiation and remained so for a five-year period.

In breast cases, as well as in other malignancies where the radiologist takes part in the treatment, the committee felt that the radiologist should share with the surgeon the responsibility of checking the follow-up of the patient for the remainder of his life.

CALIFORNIA CANCER COMMISSION COMMITTEE ON RADIOLGY:

William E. Costolow, Chairman	Carl H. Parker
Irving S. Ingber, Secretary	Charles E. Peters
Carl B. Bowen	John M. Rehisch
Lloyd Bryan	Charles M. Richards
Orrin S. Cook	F. H. Rodenbaugh
Kenneth S. Davis	H. E. Ruggles
Monica Donovan	William H. Sargent
A. E. Elliott	A. C. Siefer
L. H. Garland	Henry Snure
S. A. Jelte	Albert Soiland
Robert F. Kile	Robert S. Stone
Lyell C. Kinney	F. C. Swearingen
John D. Lawson	Laurence Taussig
Joseph Levitin	R. G. Taylor
Orville N. Meland	H. J. Templeton
Seeley G. Mudd	Paul F. Thuresson
R. R. Newell	H. J. Ullmann
John R. O'Neill	R. G. Van Nuys
	Calvin B. Witter
	Harold Zimmerman

STATE MEDICAL ASSOCIATIONS

This department contains official notices, reports of county society proceedings and other information having to do with the state associations and their component county societies. The copy for the department is edited by the state association secretaries, to whom communications for this department should be sent. Rosters of state association officers and committees and of component county societies and affiliated organizations, are printed in the directories noted under *Miscellany*, on the front cover index.

CALIFORNIA MEDICAL ASSOCIATION

JOSEPH M. KING.....President
GEORGE G. REINLE.....President-Elect
EMMA W. POPE.....Secretary-Treasurer

OFFICIAL NOTICES

Next Council Meeting.—The date of the next meeting of the Council has been set for January 21. The meeting will be held in the offices of the Association, 2004 Four Fifty Sutter Street, San Francisco.

* * *

California Medical Association Clinical and Research Prize Papers.—The customary clinical and research prize contest has been authorized, and the usual prize award will be made to the successful contestants at the annual session of the California Medical Association, to be held at Del Monte, April 24-27, 1933.

Any member interested in the rules governing this contest may secure copy of same by application to the state office, 450 Sutter Street, San Francisco.

COMPONENT COUNTY MEDICAL SOCIETIES

FRESNO COUNTY

The meeting of the Fresno County Medical Society was held at the University-Sequoia Club at 8 p. m. on November 15. This meeting had been postponed for two weeks in order to make it possible for Dr. John H. Graves of San Francisco to be present and explain the insurance proposals which are being considered by the medical men of the state.

The business session preceded the program of the evening.

Applications for membership were presented to the society by Dr. John T. Perry of Corcoran and Dr. Roy Earl Allen of Reedley.

The names of the following applicants for membership were then read: Doctors William H. Gilliatt of Coalinga, Marvin H. Moore of Fresno, Walter N. Levin of Fresno, and Kenneth W. Butler of Madera.

Dr. T. M. Madden moved that the secretary cast a unanimous ballot accepting these men as members of the Fresno County Medical Society. Motion was seconded by Dr. J. R. Walker, and carried.

Doctor Morgan reported unfavorably on the question of formation of the credit bureau.

A letter from Dr. H. M. Ginsburg, director of the General Hospital, to the president was presented:

Will you kindly read the following letter at your next medical society meeting?

Dr. Harold Brunn and his staff will be in Fresno December 2, 1932, to conduct a round table discussion on chest conditions. Doctor Brunn would appreciate seeing the work of others and will gladly attempt to answer and discuss all questions.

We would greatly appreciate having you with us, and if you have any problems or questions, bring them with you. The conference will be held in the nurses' home of the Fresno General Hospital at 8 p. m., December 2, 1932.

A copy of the medical service study of the Committee on Public Relations, as adopted by the Council of the California Medical Association at its meeting

held in Los Angeles, September 24, was not read, due to the fact that Dr. John H. Graves was to take up the same articles and discuss them. Also this article appeared in the November issue of *CALIFORNIA AND WESTERN MEDICINE*.

A letter from the Hargrove Air Service was presented in reference to the placing of an ambulance airplane in the service for the convenience of California surgeons and hospitals. It was decided by the Board of Governors that theoretically this would be very fine but of little practical value, and would not advise the expenditure of a large amount of money for that purpose. However, if such an ambulance is put into service it will be used when deemed advisable.

The San Francisco Heart Committee announces the third annual postgraduate symposium on heart disease at San Francisco on November 16 and 17, all being invited.

Communication from T. E. Dunshee, principal of the Fresno evening high school, recommending the splendid opportunities for study, recreation, vocational improvement, and mental growth now open to men and women of Fresno at the evening classes of the public evening high school.

The report of the Nominating Committee of the Fresno County Medical Society was then presented:

E. J. Schmidt, president; W. F. Stein, first vice-president; W. A. Hunt, second vice-president; Neil Dau, secretary; H. A. Randol, assistant secretary.

Delegates—J. R. Walker, T. M. Madden, R. W. Dahlgren, and George Sciaroni.

Alternates—George Walker, Neil Jorgensen, and Hy. Ginsburg.

Nominating Committee—Clinton D. Collins (chairman), T. M. Madden, and J. M. Frawley.

Following the business session Dr. John H. Graves of San Francisco discussed some of the insurance proposals of the medical profession, particularly the insurance problem as worked out by the Committee on Public Relations and adopted by the Council of the California Medical Association. The care of the low-salaried man is an immense problem which confronts the medical men of the State of California and must be worked out in detail by each society before it can be put into practice. Many questions were asked and a general discussion followed. The local Committee on Economics is diligently working on this problem, and asked that all members interested meet with the committee, which meeting was held on November 25 at the University-Sequoia Club.

A monthly meeting of the Fresno County Medical Society was held on December 6 at 8 p. m. at the University-Sequoia Club, with forty-five members present.

Dr. Roy Earl Allen of Reedley and Dr. John T. Perry of Corcoran were unanimously elected to membership.

Veterans' Hospital Legislation.—A letter from O. D. Hamlin, chairman of the Council, which was sent to the secretary of all county societies, was read, together with a copy of the recommendations from the Alameda County Medical Association, Oakland, in regard to Veterans' Administration Hospital.

It was moved by Dr. W. E. R. Schottstaedt, seconded by Dr. J. R. Walker, that the Fresno County Medical Society endorse the letter. Motion carried.

Dr. Frank Tillman made a motion, which was seconded by Dr. C. O. Mitchell, that the original committee, consisting of Doctors Neil Dau, A. E. Anderson, and D. H. Trowbridge, take care of this matter in the proper manner.

Ownership of X-Ray Plates.—A letter from the secretary of the state society in regard to ownership of x-ray films was read. Copies may be had by applying to the secretary.

Immunization Procedures.—A Mr. McClatchy from the State Board of Health contacted the president, Doctor Scarboro, and the secretary in regard to immunization procedures recommended by the State Board of Health in the following communication:

Immunization Procedures

The importance of immunization procedures in the prevention of certain diseases has been established definitely and the application of such procedures has become extended greatly during recent years. In many of the rural communities of the state, relatively few children have been immunized against diphtheria, and facilities are often lacking in the provision of medical services to apply immunization to children of rural communities. Upon the request of health officers of rural counties, when emergencies exist the State Department of Public Health stands ready to provide assistance in the immunization of rural children provided that the work has the complete co-operation of the physician in the community. It is not the policy of the State Department of Public Health, however, to carry on this work itself, but its policy is rather to stimulate and encourage the extension of immunization work in legal communities by local individuals.

To this end, it is suggested that health officers throughout the state take active steps to encourage the immunization of children by local physicians. It is suggested that letters be sent by practitioners of medicine to the mothers of all newly born children who may be their patients, advising that, at the proper time, infants be brought to their offices for immunization against diphtheria and smallpox, and follow-up letters at the proper time be sent. It is suggested also that such letters be sent to the parents of rural children under eight years of age who may be patients of the practitioner, advising the application of similar immunization procedure. It is suggested further that records of immunization be kept by all practitioners of medicine and that they be requested to send a copy of such records to the local health officer at least every month. A standard minimum charge for immunization should be established. It is suggested further that health officers, wherever they have access to the school, advise parents through public school teachers to have children taken to their family physician for immunization. Detailed records should be kept in order that the merits of this plan may be judged properly.

It is well known that physicians at the present time are immunizing large numbers of children against diphtheria. There is no clearing house for determining the number of such who may have been immunized. Under this plan, local health officers could work in co-operation, which would enable them to know the exact status of the protection that has been provided against diphtheria in the community. If physicians do not care to immunize individuals, such cases should be referred to health officers by the physician. It is believed that through the application of such a plan as this large numbers of children who at the present time are not immunized against diphtheria and smallpox can be made immune.

The reading of this letter was followed by considerable discussion, especially by our city health officer, Dr. C. Mathewson.

Dr. G. A. Hare moved that the president appoint a committee of nine with the power to act and meet with the city commissioners in regard to immunization work. Seconded by Dr. C. O. Mitchell. Carried.

The president appointed K. J. Staniford (chairman), E. L. Bennett, E. J. Couey, Neil Jorgensen, C. D. Collins, E. R. Scarboro, C. O. Mitchell, George Sciaroni, and W. F. Wiese.

Co-operation with Freeholders' Board.—Dr. T. F. Madden, who is a member of the Freeholders' Board and on a special committee to work out measures for the control of public welfare and hospital work, gave a short explanation of what they were trying to do and asked for a committee from the society to work with him.

Dr. J. R. Walker moved that the president appoint a committee to meet with the County Charter Com-

mittee and assist in incorporating measures to help control public welfare and hospital work. Seconded by Dr. C. O. Mitchell. Motion carried. The chair appointed J. R. Walker (chairman), Hy. Ginsburg, and C. Mathewson.

Election of Officers.—Election of officers for the ensuing year followed.

The following is the report of the Nominating Committee of the Fresno County Medical Society:

E. J. Schmidt, president; W. F. Stein, first vice-president; W. A. Hunt, second vice-president; Neil J. Dau, secretary; H. A. Randel, assistant secretary; J. R. Walker, board of governors.

Delegates—T. F. Madden, R. W. Dahlgren, and George Sciaroni.

Alternates—George Walker, Neil Jorgensen, and Hy. Ginsburg.

Nominating Committee—T. F. Madden, J. M. Frawley, and Clinton D. Collins.

Dr. C. O. Mitchell moved that the secretary cast a unanimous ballot in favor of the officers proposed by the Nominating Committee. Seconded by Dr. W. E. R. Schottstaedt. Motion carried.

Discussion of Hospital and Group Practice.—In the absence of Dr. A. E. Anderson, who was ill, Dr. C. O. Mitchell, the secretary of the Committee on Economics, submitted a report of the committee by reading the minutes of the meeting held,* as follows:

A meeting of the Committee on Medical Economics, with Dr. A. E. Anderson in the chair, was held on November 25.

It was moved and seconded that the principles of the so-called "Graves Plan" of the county unit medical care for citizens with low incomes be recommended for adoption by the Fresno County Medical Society. After considerable discussion, it was decided to discuss the principles of this plan in the order of their presentation. The chairman then proceeded to read each one of these principles, beginning with No. 1, and concluding with No. 7. After discussion a vote was taken and each of the seven were adopted.

There was much discussion for and against various details, but little objection to the general plan as outlined.

The chairman warned the members present that heavy work would be required to complete the details for presentation to the society.

The following committees were considered necessary and were appointed by the chairman:

A subcommittee to consider eligibility for this type of medical services. This committee was to consist of two members. This motion was carried and J. R. Walker was named as chairman, with Dr. W. F. Wiese as assistant.

A Committee on "Fee Schedule," to consist of five men, representatives of the various specialties, as well as the general practice of medicine, in this community. Doctor Scarboro was named as chairman, with the privilege of selecting four others to assist him—Doctors C. D. Collins, C. H. Ingram, J. D. Morgan, and E. L. Bennett.

A Committee on Administration. This committee would have its duties, general supervision and co-ordinating the work of various subcommittees, with the understanding that it be given the privilege of selecting from among the members of the society whatever help may be needed. Doctors Sciaroni and Mitchell were selected.

A committee of three to define the power, duties, and mode of selection of the personnel of the governing board. Dr. Guy Manson was named chairman of this committee, with Dr. B. F. Walker and Dr. H. W. Ginsburg as assistants.

A Committee on Costs for Medical Services and Hospitalization. Doctor Trowbridge was named chairman, with the privilege of selecting two assistants.

* See minutes of the Committee on Medical Economics, page 59.

Doctors Neil Jorgensen and Thomas Madden were selected.

Each of these committees were approved by vote in the usual manner, and so ordered by the chairman of the meeting.

The chairman recommended weekly meetings, the time to be set by himself after due notice.

111

Minutes Presented at Regular Meeting on December 6.— The Committee on Medical Economics of the Fresno County Medical Society met at the University-Sequoia Club at 8 p. m. on December 5. Dr. A. E. Anderson presided.

Doctor Walker's subcommittee on eligibility for medical services reported progress, but the chairman stated that a vast amount of correspondence and investigation to gather data would be necessary before it would be possible to make a comprehensive report.

After much discussion it was decided that before going further it would be necessary to submit to the Fresno County Medical Society the proposal as to whether or not the principles of the Graves Plan met with approval, and to obtain permission to proceed with the meeting of organization and that this must be done at the next meeting of that society, Tuesday, December 6.

The following motion was formulated to be presented at that meeting: "That the Fresno County Medical Society approves the principles of the Graves Plan and authorizes the Committee on Medical Economics to proceed in the preparation of a detailed working plan, to be submitted for its approval."

The committee wishes it understood that an affirmative vote for this motion is not binding when the working plan is offered for final consideration.

Dr. C. O. Mitchell moved that the Fresno County Medical Society approve the principles of the Graves Plan and authorizes the Committee on Medical Economics to proceed in the preparation of a detailed working plan, to be submitted for its approval. Seconded by Doctor Madden.

This was followed by considerable discussion, but it was explained that an affirmative vote for this motion is not binding when the working plan is offered for final consideration.

Vote was by acclamation. All were in favor but one.

Dr. C. O. Mitchell moved that the vote be reconsidered and vote taken by roll call. Seconded by Doctor James. Carried.

Roll call vote—39 yes, 2 no.

Adjournment. ELMER J. SCHMIDT, *Secretary.*

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HUMBOLDT COUNTY

The annual meeting of the Humboldt County Medical Society was held on December 9. The officers elected for the year 1933 were: Lane Falk, president; Orris R. Myers, vice-president; J. A. Lane, treasurer; L. A. Wing, secretary; Lane Falk, delegate to the House of Delegates of the California Medical Association at Del Monte; and Orris R. Myers, alternate to the delegate.

Charles C. Falk, Jr., was elected to membership.

Following the business meeting and election of officers, a paper by Lane Falk on *Carcinoma of the Cervix and Treatment* was presented.

LAWRENCE A. WING, *Secretary.*

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MENDOCINO COUNTY

Accepting the special invitation of Dr. and Mrs. Cushman, the meeting of the Mendocino County Medical Society was held at the State Hospital at Talmage on the afternoon of December 9. All the licensed physicians of the county (including their ladies) had been invited.

The following physicians were present: Doctors Babcock, Bennett, Benson, Bowman, Cleland, Cus-

man, Hummel, Huntley, Kirwin, Le Baron, Olga Miller, Rea, Scudder, Strong, Toller, and Wrinkle. All of these expect to be members during 1933, excepting Doctor Huntley.

At two o'clock the ladies met with Mrs. Cushman, and the gentlemen started an inspection of the hospital.

The regular business meeting of the society was called to order by President Babcock at 3:30 o'clock. All the members were present except Doctors Van Allen and Wolfe.

The applications for membership of Doctors Thomas H. Hill and Joseph J. Kirwin were read and they were accepted as members as of January 1, 1933.

President Babcock appointed Doctors Cushman, Rea, and Bowman to be the Committee on Public Relations of the society.

Our district councilor, Dr. Henry S. Rogers, was present and discussed with us briefly the recommendations of the Committee on the Costs of Medical Care.

The ladies met with Mrs. Cushman and organized a woman's auxiliary, electing Mrs. R. A. Cushman and Mrs. Rudolph Toller, president and secretary, respectively, for the year 1933. Those present were: Mesdames Babcock, Bennett, Bowman, Cushman, Kirwin, Le Baron, Ray, Rea, Rogers, Scudder, and Toller; and Miss Huntley.

From four to six o'clock Doctors Benson, Hummel, Miller, and Toller presented six psychiatric patients, giving complete case records in addition to inviting general discussion in which all present took part.

At six o'clock Dr. and Mrs. Cushman entertained the whole group at dinner in their lovely home. President Babcock acted as toastmaster, and called on most of those present for remarks. All expressed their appreciation of Dr. and Mrs. Cushman's hospitality and hoped for a similar meeting in the near future.

At 8:30 o'clock all those so desiring attended a dance in the amusement hall of the hospital.

PAUL G. BOWMAN, *Secretary.*

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SAN BERNARDINO COUNTY

The December meeting of the San Bernardino County Medical Society was held on the sixth at the County Hospital in San Bernardino.

The meeting was called to order by the president at 8:10 p. m.

Miss van Zandt, librarian in charge of the southern branch of the State Medical Library located at 737 North Broadway in Los Angeles, was introduced. Miss van Zandt devoted fifteen minutes to an explanation of this new service for physicians.

The speaker of the evening, Dr. Harry H. Wilson of Los Angeles, spoke on *The Medical Service Plans of the Public Relations Committee of the State Association.* Discussion on the question of hospital and medical group practice was opened by Dr. C. G. Hilliard. There followed a long and free discussion, with numerous questions for the speaker to answer.

A vote of thanks was extended to the speaker.

Forty-five members and guests were present.

E. J. EYTINGE, *Secretary.*

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SAN JOAQUIN COUNTY

The stated meeting of the San Joaquin County Medical Society was held in the Medico-Dental club-rooms, 242 North Sutter Street, Stockton, Thursday, November 3, with Vice-President Doughty presiding.

It was moved by Dr. Barton Powell, Jr., and seconded, to have the screen and picture projection machine repaired. Motion carried.

The scientific program of the evening was opened by a paper on *Rational Management of Cleft Lips and Cleft Palates* by Dr. Gerald Brown O'Connor of San Francisco.

Doctor O'Connor first presented a detailed classification of such deformities and gave plausible reasons

for early operation. He said that operation must aim to close all defects in the lip, the nose and the palate. Any operation that will meet these requirements is good. But the operation on the lip must not only close the defect, but must also correct the nose and give a good cosmetic result. This is not accomplished by the old Brophy type of operation. He said that the method of wiring the palate distorts both the teeth and the upper jaw.

The paper was discussed by Doctors McGurk and English.

Dr. George Warren Pierce of San Francisco discussed *Some New Procedures in Reconstructive Surgery*.

One of the essentials in repair of facial wounds is use of the very finest size of cutaneous suture and needles. This can be left in for weeks if necessary to prevent separation of wound margins.

He recommended amberin for the dressing of burns, on the ground that it relieves pain immediately, is readily pulled off, and does not disturb the cell growth. It is applied with a Triumph syringe while melted at 110 to 115 degrees Fahrenheit, and covers the burn like a varnish. A thin layer of cotton is applied over this, followed by another coat of amberin and then by a thick layer of cotton and a bandage. The dressing is changed once every twenty-four hours.

This paper was discussed by Doctors Van Meter and Kaplan.

The program was concluded with moving pictures showing the development and sliding of tube grafts. The reconstruction of a lower lip lost by cancer was shown.

Thirteen members of the dental society were guests of the evening. The meeting was adjourned and refreshments served.

The annual dinner meeting of the San Joaquin County Medical Society was held at the Hotel Stockton at 7 p. m. Thursday, December 1, Vice-President Doughty presiding.

The annual report of the secretary-treasurer was read and approved.

Dr. E. L. Blackmun reported for the tellers the results of the election of officers for 1933 as follows: J. F. Doughty, president; P. B. Gallegos, first vice-president; L. E. Tretheway, second vice-president; C. A. Broaddus, secretary-treasurer.

Board of Directors—D. R. Powell, G. H. Sanderson, G. H. Rohrbacher, R. T. McGurk, N. E. Williamson, Linwood Dozier, and T. L. Sutton.

Admissions Committee—B. J. Powell, Jr. (chairman), F. J. Conzelmann, Linwood Dozier, J. P. Hull, and G. H. Rohrbacher.

Ethics Committee—B. J. Powell, Sr. (chairman), J. W. Barnes, H. C. Peterson, D. R. Powell, and R. T. McGurk.

Finance Committee—J. V. Cravotto (chairman), J. D. Dameron, and S. E. Latta.

Program Committee—B. J. Powell, Jr. (chairman), T. L. Sutton, and G. H. Sanderson.

Delegates to State Medical Association—D. R. Powell and G. H. Sanderson.

Alternates to State Medical Association—C. A. Broaddus and R. T. McGurk.

It was moved by Doctor Kaplan and seconded by Doctor Gallegos that the society again remember the children of Doctor Maggs with appropriate Christmas gifts. Motion carried.

The chair appointed Doctors Kaplan and Sutton to procure and present the presents in the name of the San Joaquin County Medical Society.

The first paper of the evening was by Dr. Junius B. Harris of Sacramento. He spoke on the matter of the *Final Report of the Committee on the Costs of Medical Care*.

Doctor Harris emphasized the fact that, as first formed, this committee was entirely made up of men in positions having to do with the teaching of medicine or the direction of heavily endowed charitable institutions. These men had little conception of the practical side of medical care. It was only after con-

siderable effort that professional men from private practice were made members of the committee.

The majority report of the committee was largely sponsored by these first-named committee members. Doctor Harris and others sponsored the minority report, which favored governmental aid for indigents only, except in patients having tuberculosis, insanity, drug addicts, and such conditions as require long hospitalization or protection of the general public.

Doctor Harris also spoke at length of the medical legislation proposed for consideration at our next legislature.

Mr. Hartley F. Peart of San Francisco presented the matter of *Hospital and Medical Group Practice* as recommended by the Committee on Public Relations. He said that such service could be offered by the hospitals controlled by themselves or by the physicians. Medical service could be offered controlled by medical men, or both services controlled by medical men. He felt that in any event the physicians should always be in control of both and never let either hospital or medical service be sold to the public by either laymen or political groups.

Mr. Peart presented a plan whereby a county society should form a hospital association controlled by a board of directors chosen from the existing board of directors and officers of the county society. From their number a medical director is chosen annually. The latter controls and directs the hospital staff, which is made up of all the members of the county society.

By this arrangement there are no stockholders. Beneficiary certificates of membership are issued to individuals who are entitled thereby to hospital care but have no voice in the control of the association and are not otherwise participants.

The two papers promoted a great deal of discussion, led by Doctors McGurk, Kaplan, Broaddus, Blackmun, O'Connor, O'Donnell, Van Meter, and Dozier.

On motion by Doctor Van Meter, seconded by Doctor Gallegos, it was ordered that the chair appoint a committee to make a study of the various plans for hospital and medical service. Carried.

C. A. BROADDUS, *Secretary*.

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SONOMA COUNTY

The Sonoma County Medical Society held its regular monthly meeting on December 8 at the Tavern, one mile north of Santa Rosa. Twenty members and guests were present.

Dr. Henry Kreutzmann of San Francisco gave an illustrated talk on the subject of *Transurethral Prostatectomy*, exhibiting a new instrument especially adapted to this type of operation. The doctor's remarks were well received and discussed by the members present.

Regular routine business was transacted. The annual report of the secretary-treasurer showed a balance on hand of \$397.43, with a membership of forty-four paid and two honorary members.

Dr. L. H. Francis of Cotati, who has been a member of the society for many years and is now in ill health, was elected to honorary membership.

Considerable discussion ensued upon the advisability of a campaign of publicity, which matter was referred to the Executive Committee.

W. C. SHIPLEY, *Secretary*.

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STANISLAUS COUNTY

The regular monthly meeting of the Stanislaus County Medical Society was held on Friday, November 18, with eleven members present.

The election of officers for the year 1933 resulted as follows: Donald L. Robertson, president; Marion Collins, vice-president; J. A. Porter, secretary-treasurer; R. E. Maxwell, censor; R. S. Hiatt, delegate; E. F. Hagedorn, alternate.

Following the business meeting, the regular scientific program was given.

TULARE COUNTY

The November meeting of the Tulare County Medical Society was dispensed with in order to attend the Fresno County meeting, at their invitation, to hear Dr. John H. Graves of San Francisco discuss the proposed medical service study of the California Medical Association. The meeting was held at the University Club.

The essentials of this meeting are well covered in the November CALIFORNIA AND WESTERN MEDICINE for the attention of such as were unable to attend in person.

An unusually active delegation from Tulare County turned out to hear Doctor Graves.

KARL F. WEISS, *Secretary.*

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VENTURA COUNTY

The annual dinner of the Ventura County Medical Society was held at 7 p. m. on December 13 at the Pierpont Inn, Ventura, followed by the regular meeting and election of officers for 1933.

Those present were: Doctors Sterling Clark, Homer, Welsh, Foskett, Hendricks, Felberbaum, Jones, Bar-dill, Shore, Broughton, Osborne, Armitstead, Coffey, Achenbach, D. G. Clark, L. Smolt, Bianchi, C. Smolt, Shively, Mosher, Manning, and Strong.

A resolution by the Orange County Medical Society, opposing the entrance of the State Board of Health into immunization work of schools was read. It was moved, seconded and passed, that a committee be appointed to investigate this subject and report at the next meeting.

A communication regarding the inauguration of a well-baby clinic was read. Moved, seconded and passed, that this matter be tabled for the present.

A communication from Los Angeles County Medical Society regarding their action concerning the new x-ray fees paid in industrial cases was read.

A communication from the State Medical Association advising inauguration of a Woman's Auxiliary in various counties was read but no action taken.

An outline of a medical service plan worked out by the state was read and discussed. It was moved, seconded and passed, that the society go on record as approving the principle of the health service plan and that the Public Relations Committee investigate the matter and report on it in the future.

A communication regarding governmental restriction on the prescribing of intoxicating liquors was read. The matter was tabled.

Dr. Claude Drace of Ojai was elected to membership in the society.

The election of officers for 1933 was as follows: Royal Hendricks of Ventura, president; Artemas Strong of Santa Paula, vice-president; William Felberbaum of Santa Paula, secretary-treasurer; Sterling Clark of Ventura, delegate; G. Coffey of Ventura, alternate.

ARTEMAS J. STRONG, *Secretary-Treasurer.*

CHANGES IN MEMBERSHIP

New Members (13)

Alameda County—Hajime Uyeuama.

Contra Costa County—John Gardner Crafts.

Los Angeles County—George Harmon Lew.

San Diego County—Myrtle Spencer Lockwood, William C. Newton.

San Francisco County—Raymond L. Morris, Robert Alexander Scarborough.

Santa Barbara County—Edmund Crowley.

Santa Clara County—Orban Gayle McConnell, Olga Loos-Rosasco, Milton Herman Saier.

Siskiyou County—John Taylor Steele.

Sonoma County—Vincent Eric Johansen.

Transferred (1)

John M. Scanland, from Napa to Santa Clara County.

In Memoriam

Abraham, Henry. Died in San Francisco, December 14, 1932, age 59 years. Graduate of University of California Medical School, San Francisco, 1898. Licensed in California, 1898. Doctor Abraham was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

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Clarke, Fisher Randall. Died in Stockton, December 12, 1932, age 80 years. Graduate of Kentucky School of Medicine, Louisville, 1891. Licensed in California, 1891. Doctor Clarke was a member of the San Joaquin County Medical Society, the California Medical Association, and the American Medical Association.

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Crittenden, Charles Frederick. Died in Alameda, November 15, 1932, age 53 years. Graduate of Hahnemann Medical College of the Pacific, San Francisco, 1902. Licensed in California, 1902. Doctor Crittenden was a member of the Alameda County Medical Association, the California Medical Association, and the American Medical Association.

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Jenkins, James Fred Theodore. Died November 18, 1932. Graduate of the University of Louisville School of Medicine, Kentucky, 1878, and the University of Bishop College Faculty of Medicine, Montreal, Quebec, 1879. Licensed in California, 1885. Doctor Jenkins was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

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Le Baron, Eugene. Died in Brawley, November 28, 1932, age 67 years. Graduate of University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, Maryland, 1892. Licensed in California, 1892. Doctor Le Baron was a member of the Imperial County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

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Miner, Henry Nelson. Died in Sacramento, November 27, 1932, age 74 years. Graduate of Northwestern University Medical School, Chicago, 1886. Licensed in California, 1886. Doctor Miner was a member of the Placer County Medical Society, a retired member of the California Medical Association, and a Fellow of the American Medical Association.

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Sugarman, Herman. Died in Los Angeles, November 24, 1932, age 44 years. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1910. Licensed in California, 1912. Doctor Sugarman was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

OBITUARIES

Henry N. Miner

1858-1932

Dr. Henry N. Miner was born in Brighton, Wisconsin, May 31, 1858, and died in Sacramento, California, November 26, 1932, as a result of chronic myocarditis.

Doctor Miner graduated from the Chicago Medical College, Chicago, Illinois, in 1886 and commenced practice in Colfax, California, in the fall of that year.

Together with Dr. R. F. Rooney and the late Dr. T. N. Todd of Auburn, he was a co-founder of the Placer County Medical Society. The Placer County Medical Society minutes show that these three medical men on June 12, 1889, sent invitations to all practicing physicians in Placer County to meet in Auburn on June 27 and "then and there to form a county medical society and to take such steps as may be deemed expedient to make such an organization permanent." As a result of this action the Placer County Medical Society was formed on June 27, 1889.

Doctor Miner, after several years' practice in Colfax, moved to Berkeley, where he practiced for many years. In 1917 he returned to Placer County, since which time he has practiced medicine at Colfax and later at Blue Canyon.

Doctor Miner served the Placer County Medical Society as president during the years 1924-25. Since 1930 Doctor Miner has been a retired member of the Placer County Medical Society, by action of the California Medical Association.

Doctor Miner belonged to the rapidly diminishing members of old-time general practitioners. His loss will long be regretted by his brother practitioners and by the numerous residents of this county, whom he served so faithfully for so many years.

ROBERT A. PEERS,
Secretary, Placer County Medical Society.

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Eugene Le Baron
1865-1932

Dr. Eugene Le Baron was born in Ypsilanti, Michigan, October 6, 1865, and died in Brawley, California, November 28, 1932, of acute cardiac failure, at the age of sixty-seven. He leaves a widow, one son and one daughter.

Doctor Le Baron was graduated from the University of Maryland School of Medicine and College of Physicians and Surgeons, Baltimore, 1892, and had practiced medicine in Mexico, and for the past twenty years in Imperial Valley. He was the first physician to locate in Brawley. He was a Fellow of the American Medical Association and served as a delegate to the State Association for many years.

His loss is sincerely mourned by his friends and by the medical profession.

THE WOMAN'S AUXILIARY TO THE CALIFORNIA MEDICAL ASSOCIATION*

Official Notice

Prize Papers.—The state board of the Woman's Auxiliary is offering prizes of \$20, \$10, and \$5 for the three best papers on the subject of *The Doctor's Dilemma*. This contest is open to any doctor in California who is in good standing in the state society, his wife and children. The maximum number of words is 500, minimum number is 250. Papers should be sent to Mrs. Charles Howard, 4223 Arguello Street, San Diego, essay contest chairman, not later than March 31, 1933. The names of the judges will be announced in CALIFORNIA AND WESTERN MEDICINE. The winning paper will be read at the convention in April. Mrs. Lyell C. Kinney of San Diego is also a member of the contest committee.

* As county auxiliaries to the Woman's Auxiliary to the California Medical Association are formed, the names of their officers should be forwarded to Mrs. Clifford A. Wright, chairman of the Publicity and Publications Committee, 454 South Irving Boulevard, Los Angeles. Brief reports of county auxiliary meetings will be welcomed by Mrs. Wright and must be sent to her before publication takes place in this column. For lists of state and county officers, see advertising page 6. The Council of the California Medical Association has instructed the editors to allocate one page in every issue for Woman's Auxiliary notes.

Minutes of the Executive Committee

The Executive meeting was called to order by the president, Mrs. F. E. Coulter, at 10 a. m., September 24, at the Vista Mar Monte Hotel, Santa Barbara.

Those present were Mesdames Coulter, Stevens, Teass, Clark, and Doane. In the absence of Mrs. Quaintance Mrs. Coulter requested Mrs. Doane to act as secretary of this meeting.

The president called attention to the fact that because the ninth district had not sufficient delegates in convention to elect their councilor said office was vacant.

A motion was made by Mrs. Stevens, seconded by Mrs. Clark, that Mrs. Cushman of Ukiah be appointed councilor for the ninth district. The motion was carried.

Respectfully submitted,

HELEN DOANE.

* * *

Minutes of the Meeting of the Board of Directors Fifth Year, Second Meeting

A meeting of the Board of Directors of the Woman's Auxiliary to the California Medical Association was held at 10:30 a. m. on Saturday, September 24, 1932, at the Vista Mar Monte Hotel in Santa Barbara.

In the absence of Mrs. Quaintance Mrs. Alden was asked to act as secretary *pro tem.*

The meeting was called to order by the president, Mrs. F. E. Coulter, and the roll call was responded to by the following officers and councilors: President Mrs. F. E. Coulter, First Vice-President Mrs. Charles Stephens, Second Vice-President Mrs. Thomas Clark, Treasurer Mrs. Chester J. Teass.

Councilors—Mrs. E. A. Blondin (first district), Mrs. Clifford Wright (second district), Mrs. C. P. Proudfoot (third district), Mrs. Louis H. Dyke (seventh district), Mrs. Eliot Alden, Mrs. Dewey Powell, and Mrs. Willard N. Newman (at large).

Those absent were: Mesdames A. M. Henderson, Paul A. Quaintance, Hiram Curry, R. A. Peers, J. W. Barnes, and F. N. Scatena.

The minutes of the previous meeting were read and approved.

A report of the balloting by mail resulted in the election of these committees:

Membership and Organization—Mesdames Charles Stevens (chairman) of Santa Barbara, Willard H. Newman of San Diego, and C. P. Proudfoot of San Luis Obispo.

Program—Mesdames Thomas Clark (chairman) of Oakland, Eliot Alden of Los Angeles, and F. N. Scatena of Sacramento.

Publicity and Publication—Mesdames Clifford Wright (chairman) of Los Angeles, Philip S. Doane of Pasadena, and Hiram Curry of Santa Ana.

Public Health—Mesdames A. M. Henderson (chairman) of Sacramento, James F. Percy of Los Angeles, and Dewey Powell of Stockton.

Hospitality and Convention—Mesdames Thomas Clark (chairman) and W. H. Sargeant, both of Oakland.

An itemized account and statement of total paid-up membership was made by the treasurer. Balance on hand: \$537.89. Total membership paid to date: 829. The statements are filed with the minutes.

The president read Section 5 of Article VII.

Mrs. Charles Stevens, chairman of Membership and Organization, reported a letter from Dr. R. Manning Clarke. Mrs. Coulter recommends the approach for new county organization to be made through the medical society. Mrs. Coulter has written to eleven councilors of the medical society, who say they will indorse organization of the Woman's Auxiliary in unorganized counties. Mrs. Stevens will start procedure following the meeting of the Council.

Mrs. Louis Dyke, chairman of Associated Organizations, and Social Welfare, reports a wish to coöperate and affiliate with other clubs. In clubs of small membership and common interests, several organizations can concentrate around an objective and hold together the women of small communities.

The report on Publicity and Publication was given by the chairman, Mrs. Clifford Wright. Estimate for a year book were eight hundred copies for \$125 or one thousand copies for \$135. It was moved by Mrs. Stevens, and seconded by Mrs. Dyke, that a year book be published, the expense to be prorated according to the membership of each county publishing same, and paid out of the county treasury.

Mrs. Thomas Clark, chairman on Hospitality and Convention, stated that the next meeting of the California State Medical Association and Woman's Auxiliary will be held at Del Monte. Space for convention, rooms for executive meetings, price of luncheons, and a special rate for members will be arranged for by the chairman.

In giving suggestions for the program for the counties, Mrs. Clark gave subjects for each meeting, which will be sent to the chairman of Program of each county.

A new constitution for Orange County was accepted upon motion made by Mrs. Wright. The motion was seconded by Mrs. Dyke, and carried.

A motion was made by Mrs. Dyke, and seconded by Mrs. Proudfoot, that Mrs. Dewey Powell receive the appointment of *Hygieia* chairman for the state.

A motion was made by Mrs. Thomas Clark, and seconded by Mrs. Proudfoot, that a committee of three be formed for the essay contest, the president to act as ex-officio member. The first prize will be \$20; the second, \$10; and the third, \$5. The subject will be *The Doctor's Dilemma*. The motion carried.

It was recommended by Mrs. Stephens, and seconded by Mrs. Wright, that the fiscal year of all county auxiliaries close December 31, corresponding to the calendar year. The closing of the state treasurer's books to be five days preceding the annual meeting of the state Auxiliary. The motion was carried.

It was moved by Mrs. Teass, seconded by Mrs. Proudfoot, that all county auxiliary treasurers be instructed that March 15 is the last date upon which paid memberships can be recorded giving representation of membership by the state treasurer. This record is kept by the state and forwarded to national auxiliary for the current year. The motion was voted upon and carried.

It is under consideration that a formal invitation should be sent to all county presidents to attend the meeting of the state board, such attendance to continue until further notice.

Scrap-books containing publicity given each auxiliary concerning its activities are to be kept by committees on publicity and publication. These books are to be entered in competitive display at the meeting in Milwaukee.

The time decided upon for the next meeting of the state board will be Friday, February 17, 1933, at Los Angeles.

A motion was made by Mrs. Doane, and seconded by Mrs. Alden, that our secretary be asked to convey in writing to Mrs. Bess Mattison Behr of Pasadena our deep sympathy in the death of her father, Dr. Fitch C. E. Mattison, expressing at the same time our sincere appreciation of his enthusiastic and loyal support and his abiding faith in the ideals of the Woman's Auxiliary.

The meeting adjourned.

Respectfully submitted,

ETTA ESTILL ALDEN,
Secretary Pro Tem.

NEVADA STATE MEDICAL ASSOCIATION

O. HOVENDEN, McGill	President
D. A. SMITH, Mina	President-Elect
J. N. VAN METER, Las Vegas	First Vice-President
FLEET H. HARRISON, Minden	Second Vice-President
HORACE J. BROWN	Secretary

COMPONENT COUNTY MEDICAL SOCIETIES

WASHOE COUNTY

The regular meeting of the Washoe County Medical Society took place Tuesday evening, December 13, at the El Cortez Hotel, Reno. Unfortunately the date of the meeting occurred during one of the most wintry spells that Reno has seen in many years. Many members of the profession were busy, and this, together with the weather, gave us an attendance of but nineteen members.

The society treated themselves to an informal dinner, which was greatly enjoyed. The secretary read his annual report, showing that the society had a live organization of forty-eight paid members with a very sizable balance in the treasury to its credit. After the dinner the election of officers proceeded, resulting as follows: A. R. DaCosta, president; James Thom of Carson City, vice-president; Thomas W. Bath, secretary-treasurer. The censors elected were: Fleet Harrison of Minden and George L. Servoss of Reno. The legislative Committee, consisting of Doctors Thom and Hamer of Carson City, were added to the regular committee appointed last spring. It was decided that the society should have a legal representative who should be paid a fee such as might be agreed upon. This representative and its committee would remain incognito, but their representative would always be on the alert to see that the interests of the public as well as the medical profession were served.

Upon motion of Doctor West, the secretary was instructed to write to the chief of the Narcotic Division of Washington, D. C., and to state that the Washoe County Medical Society would be glad to coöperate with that division in their effort to bring a series of uniform laws before the legislatures of the different states. The society felt that this is a matter of national undertaking and that it would be best for us to allow the Narcotic Division, through our own legal representative in the legislature, to endeavor to bring about such laws as would, in general, be in conformity with the laws of other states.

An informal discussion was participated in by a few members with reference to the prevailing subject in medical circles, namely, state medicine. While there is at present distress in Reno and some parts of Nevada as a result of the financial misfortune that has overtaken people, yet when it is considered that Nevada's population is possibly the richest per capita of any commonwealth in the world, there seems to be, owing to our isolated condition, less need for the consideration of state medicine than in any other commonwealth of the United States.

THOMAS W. BATH, *Secretary*.

Its Quick Action Prevents Deformities.—No anti-rachitic substance will straighten bones that have become misshapen as the result of rickets, but Mead's Viosterol in Oil 250 D can be depended upon to prevent rachitic deformities. This is not true of all anti-rachitic agents, many of which are so limited by tolerance or bulk that they cannot be given in quantities sufficient to arrest the rachitic process promptly, with the result that the bones are not adequately calcified to bear weight or muscle-pull and hence become deformed.

MISCELLANY

Under this department are ordinarily grouped: News; Medical Economics; Correspondence; Twenty-five Years Ago column; Department of Public Health; California Board of Medical Examiners; and other columns as occasion may warrant. Items for the News column must be furnished by the fifteenth of the preceding month. For Book Reviews, see index on the front cover, under *Miscellany*.

NEWS

Coming Meetings—

American Medical Association, Milwaukee, Wisconsin, June 12-16, 1933, Olin West, M. D., 535 North Dearborn Street, Chicago, Secretary.

California Medical Association, Del Monte, April 24-27, 1933, Emma W. Pope, M. D., 450 Sutter Street, San Francisco, Secretary.

Pacific Coast Surgical Association, Del Monte, February 23-25, 1933, Edgar L. Gilcreest, M. D., 384 Post Street, San Francisco, Secretary.

Medical Broadcasts—

American Medical Association Health Talks.—The American Medical Association broadcasts on Monday and Wednesday from 9:45 to 9:50 a. m. (central standard time) over station WBBM (770 kilocycles, or 389.4 meters).

There is also a fifteen-minute talk sponsored by the association on Saturday morning from 9:45 to 10 over station WBBM.

San Francisco County Medical Society.—The San Francisco County Medical Society broadcasts every Tuesday from station KFRC, 4 to 4:15 p. m., and over station KJBS from 11:15 to 11:30 a. m.

Los Angeles County Medical Society.—The Los Angeles County Medical Society will broadcast as follows: Over KECA on Monday, January 9, 11:45 a. m., and Monday, January 16, from 11:45 to 12 noon.

Medical Films.—Societies interested in medical films can obtain a copy of "Directory of Medical Movies and Their Sources" by writing to Bell & Howell Company (Educational Division), 1801 Larchmont Avenue, Chicago, Illinois.

United States Doctor Surplus Hit.—The oversupply of physicians in the United States is stressed by Dean Willard C. Rappleye of the Columbia University School of Medicine, in his annual report to President Nicholas Murray Butler, made public recently.

He pointed out that there are about 156,000 physicians in this country, twice as many per capita as any other country in the world.

Dean Rappleye urges that universities prepare to deal with the present superfluity of doctors, that a medical plan be formulated to make modern medical service available to every family.

Stanford University Popular Medical Lectures for 1933.—The Stanford University School of Medicine announces the fifty-first course of popular medical lectures (illustrated) to be given at Lane Hall on alternate Friday evenings at 8 p. m. sharp. All interested are cordially invited to attend.

The following is the scheduled program:

January 6—"Ancient Man and Ape," Arthur W. Meyer, M. D.

January 20—"The Work of the Committee on the Costs of Medical Care," President Ray Lyman Wilbur.

February 3—"Results of a Study of Nursing Care of Middle Classes," Walter H. Brown, M. D.

February 17—"Psychiatry of Crime," Herman Adler, M. D.

March 3—"Brain Surgery: Its Beginning, Development, and Present-Day Application," Howard C. Naffziger, M. D.

March 17—"The Danger of Subnutrition During Business Depression," Alonzo E. Taylor, M. D.

Dr. A. C. Reed of California Named on Group Council.—Dr. A. C. Reed, professor of tropical medicine and head of the Pacific Institute of Tropical Medicine of the University of California, has just been named to the Council of the American Society of Tropical Medicine for a period of five years.

William Beaumont Exhibit.—An exhibit in honor of the centenary of the publication of William Beaumont's (1785-1853) "Experiments and Observations on Gastric Juice and Digestion," Plattsburg, 1833, has been arranged in the library of the University of California Medical School. The first edition of this pioneer physiological classic is on view together with a number of other editions of the work, and with other material relating to Beaumont.

Lane Lectures.—Dr. J. C. Drummond, professor of biochemistry, University College, London, will deliver the next Lane Lectures early in April at the Stanford University School of Medicine in San Francisco. Professor Drummond expects to arrive in San Francisco about April 1, 1933. There will be five lectures, under the general title of "Recent Advances in the Biochemical Study of Nutritional Disorders." The lectures are to be published later.

California Medical History Seminar.—The California Medical History Seminar gave a luncheon in honor of Dr. and Mrs. Charles Singer, Monday, December 12, at the Bohemian Club, San Francisco. Dr. and Mrs. Singer, who have presented course on the history of science at the University of California during the past year, are sailing around the world on their way to their home in London. At the seminar luncheon Dr. Sanford V. Larkey, professor of the history of medicine at the University of California Medical School, presented a paper on "Berengario da Carpi," and Dr. Emmet Rixford, emeritus professor of surgery at Stanford University, discussed "Traditions of Chinese Medicine." Both papers were illustrated with books and other material. An exhibit was held in celebration of the tercentenary of the birth of Antonij van Leeuwenhoek (1632-1723).

University of California Guest Speakers.—Dr. Lewis J. Pollock, professor of neurology, Northwestern University Medical School, held a clinical demonstration at the University of California Medical School on November 2. This was attended by members of the faculty and students.

Professor J. B. S. Haldane, head of the genetical department, John Innes Horticultural Institution, London, and Fullerian professor of physiology in the Royal Institution, spoke to the faculty and students on November 16.

Dr. Charles Singer, lecturer in the history of medicine, University of London, and professor of the history of science, University of California (to December 31, 1932), spoke to the faculty and students on November 29. His subject was "Medicine and the Galilean Revolution."

Pacific Coast Surgical Association.—The next meeting of the Pacific Coast Surgical Association will be held on February 23, 24, and 25 at Del Monte. The following are the officers of the association: Emmet Rixford of San Francisco, president; Wayland A. Morrison of Los Angeles, first vice-president; W. B. Holden of Portland, Oregon, second vice-president; and Edgar L. Gilcreest of San Francisco, secretary-treasurer.

Mount Zion Hospital Lectures.—Dr. Charles Weiss, director of the Clinical and Research Laboratories of Mount Zion Hospital, will give a series of six lectures, summarizing the present knowledge of the bacteriology and immunology of infectious diseases of the eye. These lectures are open, without charge, to the medical profession and to all those who are especially interested in the subject. The lectures will be held at 8 p. m. in the assembly hall of the nurses' home of Mount Zion Hospital on six successive Thursday evenings, beginning with January 19, 1933.

American Association for the Study of Goiter Prize Essays.—The American Association for the Study of Goiter, for the fourth time, offers \$300 as a first award, and two honorable mentions for the best three essays based upon original research work on any phase of goiter presented at their annual meeting in Memphis, Tennessee, on May 15, 16, and 17, 1933. It is hoped this will stimulate valuable research work, especially in regard to the basic cause of goiter.

Competing manuscripts must be in English and submitted to the corresponding secretary, J. R. Yung, M. D., 670 Cherry Street, Terre Haute, Indiana, not later than April 1, 1933. Manuscripts arriving after this date will be held for the next year or returned at the author's request.

Laboratory Problems Discussed at Health Convention.—At the Washington meeting of the American Public Health Association, Dr. Ruth Gilbert of the Division of Laboratories and Research, reported, as referee, on the standardization of the complement-fixation test for syphilis. The technique which she presented as a basis for a standard procedure was accepted by the Committee on Standard Methods of the Laboratory Section and recommended to the section for final adoption as a standard method next year, according to the regular procedure.

Particular stress was placed in the report on the desirability of providing carefully standardized reagents which would be available for routine use or for purposes of control.

Accident-Prevention in Metal Mining.—The Demographical Division of the Health and Safety Statistics Division of the United States Bureau of Mines states: Metal mines in South Dakota were operated with a greater degree of safety during 1931 than in any other year for which records are available, except 1912, according to information received from operating companies by the United States Bureau of Mines. The accident rate declined more than 50 per cent from that of 1930. With a total of 3,843,405 man-hours of work performed by all employees at all mines reporting, the number of accidents averaged 1.30 for fatalities and 41.33 for nonfatal injuries, a combined rate of 42.63 accidents per million man-hours of exposure to risk, as compared with 88.02 in the previous year.

San Francisco Physician Manhandled in Paris.—A United Press dispatch of December 19 was as follows:

Dr. Daniel Mahoney, former San Franciscan, who was manhandled by an anti-American mob in Montparnasse recently, left San Francisco ten years ago and became a member of the staff of the Pasteur Institute in Paris.

His research work in rare diseases, particularly in brain ailments, won him an international reputation among medical scientists.

Doctor Mahoney fought with the American army in France and won the French Croix de Guerre for heroism. He is a native of Richmond, Virginia, and has been engaged in postgraduate study in Paris.

Doctor Mahoney graduated from Saint Ignatius College, now the University of San Francisco, and from Stanford and Johns Hopkins.

American Public Health Association Meeting.—Delegates returning from the sixty-first annual convention of the American Public Health Association at Washington, D. C., October 24-27, report that it was one of the best meetings ever held.

The program included many special features, as well as topics of general interest. Comparison of results with toxoid and with toxin antitoxin in the prevention of diphtheria, the standardization of serums, studies of the value of serums in the treatment of poliomyelitis, mental hygiene, and the relation of heart disease and public health were among the many problems considered.

President Hoover referred to his previous contact with public health activities in Belgium and other war areas and later in working with association members in the Mississippi flood area. As a result of this experience during the flood, he has since promoted by every means within his reach the idea of establishing county health units in each of the counties in the United States. "These units were established in one hundred counties in the flood area and the extraordinarily successful results of their work confirmed the wisdom of the plan."

As a constructive measure of public economy, President Hoover favors a federal aid program designed to reduce communicable diseases, although he is generally opposed to federal subsidies. If these "diseases could be reduced by even one-third, such a reduction would repay the country more than a thousandfold its cost by its savings of the present losses in productive time of workers and its saving of the present losses to school funds by absence from classes." He emphasized also the importance of safeguarding the health of children and of developing all factors that will contribute to the production of a healthier and more virile race.

Group Working for Change in Laws on Mental Disorders.—As a further step in a campaign to amend California's antiquated laws relating to the commitment of mentally disordered persons to state institutions, a permanent committee has been appointed to sponsor public support for proposed changes in the state law.

Announcement of this committee was made recently by Dr. John Gallwey, chairman of a temporary committee, following a meeting of two hundred physicians, psychiatrists, and interested citizens in the Hotel St. Francis, San Francisco. Miss Anita Eldridge, executive secretary of the California Council for Social Work, acted as secretary.

This new group will be known as the Northern California Committee on Proposed Changes of the California Commitment Laws for the Mentally Disordered. The specific purpose of the committee is to sponsor an act which will come up before the next legislature amending, repealing, and adding sections in the state law in the light of modern knowledge of mental disorders and the way they should be handled. Among the points they make are:

The mentally disordered in California are still handled as criminals.

New York, Massachusetts, Pennsylvania, New Jersey, and other states are far ahead of California in dealing with the mentally disordered as patients in need of treatment and not as criminals.

The purpose of the proposed bill is to humanize the commitment procedure of mentally disordered persons by abolishing the use of jails for detention of the mentally disordered, by facilitating the admission of those properly eligible to treatment in mental hospitals and by the adoption of other features tried and proved in other states.

It is intended to prevent aggravation of mental disorder through criminal procedure and delay pending

hospitalization, but nevertheless to protect constitutional rights. The proposed changes are not radical but are effective in their essentials in other states.

It is expected that the changes proposed will appreciably decrease costs incident to commitment, through decreasing both the number of patients and the number of patient days in psychopathic wards pending further action, and will in no way increase such cost. The mentally disordered in California must be treated as sick persons.

CORRESPONDENCE

Subject of Following Letter: Hospitalization of Veterans

To the Editor:—Enclosed herewith find a copy of a letter as per suggestion on page 407 of the December CALIFORNIA AND WESTERN MEDICINE. It occurred to me that the new paragraph 8, dealing with Los Angeles conditions, may have a suggestive value to other communities.

Cordially yours,

C. HIRAM WEAVER,

* * *

Paragraph 8 is as follows:

In the city of Los Angeles there are approximately ten standardized hospitals fully accredited by the American Hospital Association and American College of Surgeons, any or all of which at the present time are less than half filled to capacity with patients, and any of which are equipped and manned with appropriate staff members to care for the hospitalization of veterans and/or their beneficiaries; while at the same time, within approximately ten or twelve miles of the center of the city, there are approximately twenty-two hundred veterans as patients at the Sawtelle National Veterans' Hospital, 80 per cent of whom are nonservice-connected patients.

Subject of Following Letter: Etching

To the Editor:—Recently, an etching by Pennell was brought into my office. At the time it struck me as though it might have been taken off some doctor's waiting-room wall. If anybody has missed an etching by Pennell, if they will communicate with Garfield 1336 I will be glad to talk with them.

Very truly yours,
H. B. GRAHAM.

Subject of Following Letter: A Copy of a Letter from the President of the Los Angeles County Medical Association to the General Manager of the Los Angeles Times, Concerning the "Health Column" of That Newspaper.

December 15, 1932.

Mr. Harry Chandler,
President, General Manager Los Angeles Times,
Los Angeles, California.

Dear Mr. Chandler:

I am in receipt of a copy of a letter of John L. Pomeroy, County Health Officer, addressed to Philip Lovell, M. D., editor of your newspaper's department "Care of the Body." A copy of Doctor Pomeroy's letter has been sent to the editor of the *Times*.

County Health Officer Pomeroy's letter discusses and answers certain unwarranted and false statements as to the practice of vaccination against smallpox and diphtheria. Doctor Pomeroy states facts and figures based upon his experience as health officer of this county over a period of eighteen years, and you as the director of a great newspaper should give this subject your serious consideration.

It is a grave menace to the public health interests of this community, and in particular to the lives and well-being of our children, that the editor of this important department should have unbridled liberty to disseminate his personal opinion upon health matters, when such views and opinions are not based on a proper foundation of education or personal experience. I am

Respectfully yours,
WILLIAM R. MOLONY,
President.

NEW HOME OF THE LOS ANGELES COUNTY MEDICAL ASSOCIATION

On December 15, the Los Angeles County Medical Association held a "house warming" in the new home of the association. From the May 5 and December 1, 1932, *Bulletins* of the Los Angeles County Medical Association, the following excerpts are taken:

From the *Bulletin* of May 5:

Permanent quarters, or a home for the Los Angeles County Medical Association, has been discussed more or less for the last twenty-five years.

Several years ago, voluntary subscriptions to the permanent quarters fund were started, and in 1923 the Board of Trustees made it a requirement in the form of an initiation fee.

Through excellent management and certain propitious circumstances, some \$98,000 has grown in value to approximately \$350,000, which makes it seem possible for the association to bring to realization and actual construction, a home and meeting place for the members of the association.

As most of you know, we own three lots on the southeast corner of Westlake and Wilshire, upon which the Wilshire Medical Building is located, and leased from the association on a ninety-nine year lease, with a net income of \$10,500 per year, increasing to a guaranteed minimum of \$15,000 per year within a few years' time.

There have been certain suggestions that the association should not enter into a building program where the burden of maintenance should be carried by the members from dues. This is obviated when we consider that our present lease with its guaranteed income may be considered as the commercial aspect of the association's building program.

In addition, we own the lot at 669 South Westlake Avenue, which has a frontage of 200 feet, and some of the members of the Permanent Quarters Committee are in favor of altering the old home, making it suitable for meeting rooms, and then erect a library unit adjoining. This property carries a mortgage of \$25,000.

We also own the old Forve property at 427 South Westlake Avenue, which has a frontage of 200 feet, and some of the members of the Permanent Quarters Committee are in favor of altering the old home, making it suitable for meeting rooms, and then erect a library unit adjoining. This property carries a mortgage of \$25,000.

It is possible for us to exchange the two Westlake lots for an excellent corner on Wilshire Boulevard directly opposite our present Wilshire holding without increasing our liabilities. This would concentrate our realty holdings into two pieces of property, one leased on a ninety-nine year lease which may be considered as the income property, the other suitable for permanent quarters. . . .

From the *Bulletin* of December 1:

A home for the Los Angeles County Medical Association—at least a temporary home with meeting rooms and lounge room and offices—will be a reality within a few weeks' time.

Immediately after the property at the corner of Wilshire Boulevard and Westlake Avenue became the property of the association, the Board of Trustees decided to occupy the building that stands on this property, and voted that immediate steps be taken to place this building in condition for occupancy by the association. This work has been under way for two weeks.

The building is being redecorated, and with a few minor structural changes called for inside, should offer excellent facilities to the members during the time the library unit of the permanent quarters building program is being constructed and until such time as the permanent quarters building itself shall be erected.

The present building will provide adequate office space, and the offices of the association will be moved there the first part of December. A large room, to serve as a lounge room for members during the day and to serve at other times for section gatherings and as a meeting room for the Board of Councilors, is being equipped for these purposes. Another room is being equipped for committee meetings. This room will also serve for meetings of the Board of Trustees.

Provision is being made for those groups that are accustomed to having dinner meetings. These groups should find the quarters ideal. Arrangements have been made to provide the proper facilities for catering service for dinners and luncheons to those groups that wish to take advantage of such service.

Many of the general meetings of the association will be held in the auditorium at the rear of this building. This auditorium will seat approximately two hundred persons comfortably.

Only moderate expense is being entered into in making this building of definite value to the association. The building itself was found to be in good repair, and only minor changes were needed to make it serve its proper purpose.

Furniture to meet the present needs is being purchased at possibly the lowest prices ever asked for quality furniture, and only such furnishings are being purchased as may be used in the permanent quarters building when it is constructed.

The vacant portion of the property extending to the corner, which at present is rather an eye-sore, will be hidden from view with a little landscaping and trellis.

From the *Bulletin* of December 15:

Nineteen hundred twenty-five Wilshire Boulevard will be the new address of the Los Angeles County Medical Association on and after Thursday, December 15.

The telephone number, VAndlike 1221, will remain the same as it has for years past.

It is confidently hoped that the transfer of the offices to the association's own quarters from the old address at 1008 West Sixth Street, will be made without any break in service. Plans for this transfer are now about perfected.

The annual meeting of the association, which will be held on the evening of Thursday, December 15, will open the new quarters to the membership. The doors will be open at 7:30 p. m. for a general inspection of the building. The annual business meeting of the association will be called at 8:30 p. m. Following this there will be refreshments.

Every member of the association is urged to inspect the new quarters, which serve as tangible evidence that the years of endeavor to have a permanent home for the association have at last borne some fruit and encouraging evidence that the permanent quarters as conceived by the members of years ago will within a reasonably short time become a reality.

At the meeting of the Board of Councilors on Monday, December 5, the president was instructed to name a house committee. This house committee will arrange to have the quarters made as useful as possible to the membership. It is the sincere hope of all those who have been for years interested in this movement, to make the permanent quarters a real home and a gathering place.

Several rooms have been especially equipped for this purpose. One, a large room, has been designed to serve a three-fold purpose: first, as a lounge room during the day; second, as an ideal place for section meetings; for this purpose it has been equipped for the installation of stereopticon and motion picture apparatus, which, as in the past, will be installed for any meeting that may so desire this service. All arrangements for these meetings will be worked out by the House Committee, which will attempt to encourage all sections to hold their meetings in the permanent quarters. The third use for this particular room will be for all meetings of the Board of Councilors.

Another room has been equipped for a two-fold purpose: first, for committee meetings. Catering service will be arranged for by the House Committee so that the committees meeting in this room may meet for lunches or dinners, if so desired. The second use of this room will be as the meeting room of the Board of Trustees.

To provide for the dinner meetings of sections or other groups that may arrange for the use of the quarters—if the group is too large for the committee room—arrangements may be provided in attractive surroundings in the auditorium of the building, leaving the meeting room free of all dinner service and confusion for the business meeting. The auditorium, it is expected, will afford ample room for the regular meetings of the association as a whole.

The offices of the association will be housed in the same building. Committees that hold their meetings there during the daytime will have the advantage of stenographic service whenever it is called for, so that a more complete record of their activities may be provided for, if it is desired. This grouping of the various activities of the association under one roof, with the provision for the maintenance of various committee records, it is anticipated, will help to build up a more cohesive system of activity for the association.

The entire building at 1925 Wilshire Boulevard has been completely redecorated at a very moderate cost, and has been furnished also at a very moderate cost, with furniture and furnishings that may be used in the final permanent quarters building that probably will be erected before many years are passed.

The preparing of these quarters for occupancy has been a task filled with detail and filled with a large amount of responsibility. All steps taken looking toward the transfer of the offices to the new quarters, the preparation of the new quarters for occupancy, have been taken in accord with the Board of Trustees and the committees responsible. At the last meeting of the Board of Councilors, the activities which at that time had taken place and the program which now sees completion in the new quarters, was presented to that board and approved.

It is sincerely hoped that when the membership visits this place that they now may consider their home until a more permanent structure is built, they will go away feeling they will wish to come back, again and again, and that as a temporary arrangement the new quarters will offer something that is definitely worth while.

A SAN DIEGO COUNTY PLAN FOR THE CARE OF THE INDIGENT SICK

The November CALIFORNIA AND WESTERN MEDICINE printed two articles on Alameda County plans to care for the indigent sick. One paper was by Dr. B. M. Black (page 330) and the other was by Dr. Daniel Crosby (page 354).

Under date of December 15, an Associated Press dispatch printed the following news item:

SAN DIEGO ADOPTS PAY-TO-FIT PURSE MEDICAL SERVICE

San Diego, Dec. 15.—(AP)—Under a co-operative plan announced today by the San Diego County Medical Association all residents of this county will be offered complete medical and hospital services after January 1 at prices to fit their pocketbooks.

A central service clinic will be set up to classify the patients. Its board of directors will be made up of representatives of the Community Chest and other welfare agencies, the Medical Association, and the county's hospitals. If its investigators find that a patient can pay only half price for an operation and subsequent hospital treatment, such services will be given for what he can pay. If he can pay nothing, he will be taken to the county hospital, as at present.

Medical Association representatives said as little as a dime or five cents a visit by member physician would be accepted as full pay if the patient could afford to pay no more. If any physician should find he could not afford to treat a large number of "part pay" patients in his clientele, the Central Service Clinic will place them in the care of physicians connected with clinics to be maintained by the hospitals for that purpose.

CARE OF WAR VETERANS

An interesting news dispatch, discussing other phases of veterans' care problems, such as were considered in the December CALIFORNIA AND WESTERN MEDICINE (Report by Dr. Thomas W. Bath, page 370, and Future Taxes item, page 425), appeared in the daily press of December 19, and is here reprinted. The Associated Press dispatch follows:

\$400,000,000 VET AID SLASH IS ASKED

Washington, Dec. 19.—A slash of \$400,000,000 in expenditures in behalf of war veterans without reducing by "a single dollar" payment to those who incurred disability in war service or to dependents of the soldier dead was recommended to the joint Congressional Veterans' Committee today by the Chamber of Commerce of the United States.

Chester Leasure, director of the Chamber's Public Affairs Division, read the proposal by Henry T. Harriman, president of the organization.

"We appreciate the importance of the task before your committee and sincerely trust that from your deliberations will issue recommendations to Congress in favor of the substantial reduction of the expenditures which you are examining," the statement said.

NATIONAL POLICY

"May I likewise express the hope that your search for a long range national policy, with respect to veterans and their dependents, will not delay full recognition of the urgent importance of your other objective, namely, such revision of veterans' legislation as will produce early and substantial economy without denying a single dollar to those justly entitled to benefit. We ask no reduction in expenditures for veterans whose service brought them disabilities.

"We ask maintenance of wholly adequate provisions for them, and if in any respect your committee finds there is not now full discharge of the national obligations to them, I know I can speak for our entire membership in saying we will support any increase in expenditures necessary to make good the full obligation.

"We ask, and our committee asks, only reduction which we believe will be in the interests of everyone, including the veterans themselves.

"It cannot, we submit, be in the public interest that federal expenditures should be made on account of disabilities which result from the normal hazards of civilian life for persons having in every sense a civilian status."

The chamber's specific recommendations for savings were:

Denial of compensation for all disabilities not clearly proved to be service-connected.

SCIENTIFIC BASIS

Repeal of legislation granting hospitalization for disabilities not attributable to service.

Limiting government life insurance "to the purpose for which it was undertaken."

Placing compensation paid dependents on a basis of necessity and service-connected disability or death.

Returning disabled emergency officers to a disability compensation status.

Placing veterans' relief legislation on a scientific basis with consequent reduction in administrative costs.

The savings outlined from such changes were:

Spanish-American War pensions, \$112,843,000.

Compensation for presumptive disabilities, \$75,000,000.

Allowances for nonservice-connected disabilities, \$104,278,000.

Emergency officers' retirement pay, \$6,798,000.

Hospitalization, \$40,000,000.

Hospital construction, \$5,000,000.

Reinstatement of military and navy insurance, \$40,000,000.

Administration, \$20,000,000.

U.S. CONGRESS SETS UP FREE HOSPITAL FOR ITS MEMBERS

The House of Representatives is becoming increasingly health conscious, as indicated in accounts filed by the clerk of the House.

The House has set up a miniature hospital with a physician and three assistants in charge to provide complete medical care for members and their families. Service is free and competent.

The House has reduced the expense of this service to a comparatively low figure by having the Navy Department detail Commander George W. Calver, a naval surgeon, and three enlisted men as assistants. The third assistant was added a year ago. Each is paid, in addition to navy pay, \$30 a month by the House to cover the cost of meals at the capitol.

\$2,500 FOR MEDICINE

Doctor Calver is allowed \$2,500 a year by the House for medicines, expenses, supplies, and the extra pay of his three assistants. Originally, when the office of attending physician was created, Congress allowed \$1,500 a year for medicines and equipment. Then it was increased temporarily to \$2,500 to permit the physician and his two assistants to engage in special courses of study during the summer recesses of Congress. When some members a year ago attempted to curtail this to the original \$1,500, the attending physician explained that he had understood the office was to continue to receive the additional amount.

VACATION TRIPS

Out of this fund the attending physician keeps up an automobile for making calls. During the long summer recess of 1931, he visited Boston hospitals. One of his assistants spent three weeks at the University of Wisconsin for special study. Board and room and the cost of an automobile trip there was turned in as a legitimate charge against the House appropriation. Other trips by members of the staff were made to New York and Princeton University.

In four years' time Doctor Calver has been able to equip a modern treatment room in the capitol. Within the last year he has installed a diagnostoscope and an infra-red lamp, in addition to numerous pieces of less expensive equipment.

This service, plus the fact that Walter Reed hospital, one of the crack army institutions, and the naval hospital here are at the disposal of members of Congress—and what with the large quantities of aspirin tablets which the doorkeeper provides in the House

cloak rooms—enables the legislators to keep in the very best fighting trim. The House also has one member, who is a physician, Dr. William L. Sirovich, Democrat, New York.—*News Dispatch*.

DENTISTS TOLD OF CALIFORNIA HEALTH PLAN

GROUP IDEA FOR MEDICAL AND HOSPITAL CARE EXPLAINED—DR. GRAVES, HEAD OF STATE BOARD, GIVES DETAILS—COUNTY PROFESSIONAL BODIES COULD FIX OWN RATES

Details of the California Medical Association's plan to provide complete medical service and hospitalization to persons of moderate means were explained to the Southern California State Dental Association recently by Dr. John H. Graves of San Francisco, president of the State Board of Public Health and former president of the State Medical Association.

Dentists from various Southern California counties, believing the medical association's plan can be applied to dentistry, attended the meeting at University Club.

Each county medical society, Doctor Graves explained, would fix its own rates, and determine the maximum income it regards as coming within the scope of "moderate means." Persons whose financial status exceeded this maximum, would not be eligible.

PROFITS ABOLISHED

"At the outset," Doctor Graves said, "profits that would go to agencies, insurance companies, promoters, etc., are abolished. The medical profession, through such county units as desire, will offer professional service to the people whose income for the past year is below a certain fixed sum, providing ascertainable assets are below fixed amounts. Professional service means physicians' and surgeons' attendance only, for any and all types of disease and injury, where the individual is not protected under the Workmen's Compensation Act.

"Each county medical unit will operate as a partnership, and the division of moneys received will be on a unit basis—a fixed amount for each type of service. Such a plan definitely answers the critics of our profession, who assert that we are not interested in coöperative efforts of a social nature."

HOSPITALIZATION PLAN

Doctor Graves also described how the partnership of the county medical society can promote, among the hospitals in the county, a hospitalization plan, so that a subscriber could assure himself either of medical service, hospitalization, or both.

"The hospitals would form a coöperative organization," he said, "offering to the public ward accommodations with ordinary laboratory, operating-room, and floor-nursing service for all diseases not termed contagious; and all injuries where persons are not covered under the Workmen's Compensation Act, for periods of one, two, and three months' duration."

The patient would select his own physician, from the membership rolls of the county medical society, and his own hospital, from the list of those coöperating.

SAVING ANTICIPATED

Such a plan, it is contended, would reduce the operating expenses of county hospitals by reducing the number of patients who now are obliged to seek treatment in tax-supported institutions. Additional savings would be made by cutting down the number of public school absentees through prompt medical attention.

One feature of the proposal, it was explained, is that a subscriber would not be entitled to obstetrical service until after one year's enrollment. That would serve as protection for the physician and the hospital against possible cases of what might amount to attempted fraud.—*Los Angeles Times*.

TWENTY-FIVE YEARS AGO*

EXCERPTS FROM OUR STATE MEDICAL JOURNAL
Vol. VI, No. 1, January, 1908

From some editorial notes:

Sixth Volume.—With this issue the journal enters upon its sixth volume, and it bespeaks a continuance of that friendly help and cooperation which you have given it in the past years, for the present year, and for those to come. That it has prospered more than six years ago, we could have thought possible, is largely due to your aid and your assistance. . . .

The Plague Situation.—The plague situation remains about as it was, though there are certain symptoms of improvement in general conditions. In San Francisco the average number of new cases and infected rats seems to keep up, but rats are becoming scarcer and there has been a decided decrease in the flea population, naturally to be expected with the coming of the winter rains. A number of desirable ordinances have been drawn up and presented to the Board of Supervisors, and it is expected that these will be passed in due season. . . .

From an article on "The Rat and His Parasites: His Rôle in the Spread of Disease, with Special Reference to Bubonic Plague" by B. J. Lloyd, M. D., Assistant Surgeon, United States Public Health and Marine Hospital Service.

It has been found in the application of sanitary measures in various places that poisoning rats, disinfecting, medical inspection, etc., while they are very important auxiliaries, are not nearly so effective as the tearing out of filthy habitations and the reconstruction of such buildings on good sanitary principles. . . .

From an article on "The Continuance of Plague in San Francisco" by W. C. Hessler, M. D., San Francisco.

On February 29, 1904, the last verified case of bubonic plague was noted by the Department of Health. During all of the period prior to the reporting of the first case in 1900 and up to April 18, 1906, active measures were continued looking to the sanitation of the city, particularly that area then accepted as the infected section of the city, to wit: Chinatown and North Beach. . . .

From an article on "Amputation Below the Knee Joint" by Andrew M. Henderson, M. D., Sacramento.

Although the technique of amputation is well understood and the performance of the operation is generally considered simple, none the less the results vary so greatly that we cannot but feel that there is good reason for giving some time to consideration of the various details. . . .

From an article on "Replacing of Bone and Cartilage of the Septum After Its Submucous Resection" by Edward Cecil Sewall, M. D., San Francisco.

In nasal surgery few conditions have received more attention than the deviated septum. The correction of this deformity, so often of such importance to the well-being of the patient, has been done in almost every conceivable way. I do not wish to go over the situation as it has stood in the past or as it stands today. Suffice it to say that we have a method, the submucous resection of the septum, that is familiar to us all, and one that gives results. . . .

* This column strives to mirror the work and aims of colleagues who bore the brunt of society work some twenty-five years ago. It is hoped that such presentation will be of interest to both old and recent members.

From an article on "Report of Cases of Head Injury" by O. D. Hamlin, M. D., Oakland.

In presenting this report of cases, the question of diagnosis and treatment will be mainly dealt with in that the diagnosis and treatment of intracranial disturbances depends on a thorough and practical knowledge of the physiologic functions and the anatomical locations of nerve centers. . . .

From an article on "The Medicinal Treatment of Myocarditis" by William Watt Kerr, M. D., San Francisco.

It is difficult to write a satisfactory article upon the treatment of any disease because so much depends upon the individuality of the patient, the extent of the tissue changes, the coexistence of complications or distinct morbid conditions, all of which tend to diminish the possibility of describing a course of treatment equally applicable to any two consecutive cases. . . .

From an article on "Indications of Cesarean Section" by A. B. Spalding, M. D., San Francisco.

The interest of the unborn child demands attention, and its life as well as its future health should be safeguarded by the conscientious attendant. To do this one must adopt a systematic method of examination of the pregnant woman and carry it out continuously. Too often this becomes a very monotonous procedure and the practitioner falls into the convenient habit of never troubling trouble until trouble troubles him. . . .

From an article on "Filling of Bone Cavities" by James T. Watkins, M. D., San Francisco.

It has long been recognized that bone cavities become sooner or later infected, and that they form a menace not only to primary union, but also to the subsequent healing of the overlying structures. Attempts have been made to fill them with nonabsorbable substances, such as amalgam and cement; and with a number of absorbable substances. . . .

The object of the present paper is to direct attention to a new member of the heteroplastic group, the iodoform bone plug of von Mosetig-Moorhoof. . . .

CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH

By GILES S. PORTER, M. D.
Director

A Plan for Reducing Medical Costs.*—Under conditions which now exist in our state, our nation, and throughout the civilized world, it is to be expected that serious thought will be given to much that is unfavorable in our social, industrial, and economic life. The fruits of such effort will be manifested in an improvement of methods and conditions.

The health department of a great state like California, endeavoring to maintain its efficiency in controlling epidemics, in guaranteeing to its citizens pure food and water supplies, and making use of all scientific means for the protection of the health of its citizens, has under present conditions many unusual problems to solve.

The expense of all such activities is borne by the public, and never before has it been more necessary to combine painstaking economy with efficient service. This combination of economy and service pertains not only to public departments, but to the personal affairs of every citizen. New and successful methods for obtaining this end will be developed in the stern school of necessity.

Sickness, although inevitable, is generally unexpected; and to the average citizen of moderate means

* By John H. Graves, M. D., president California Board of Public Health.

it is always a heavy liability, and not infrequently a financial catastrophe.

Place emphasis upon the average citizen of moderate means, because the indigent, in our moderate polity, are well cared for in the magnificent tax-supported hospitals that abound throughout the land. In these hospitals, every facility of modern scientific medicine, no matter how extensive or expensive, is at all times available for the treatment of indigents. Medical and surgical service of the highest quality is rendered by a wholly unpaid or a much underpaid medical profession.

On the other hand, those of our citizens who can still be classified as rich, are amply able to meet the expense of sickness without serious financial inconvenience.

The great majority, however, is composed of people of moderate means; and there has existed for a long time a real need of some system to furnish medical, surgical, and hospital care which will enable them to defray the cost thereof without financial wreckage.

The state-controlled, politically operated, compulsory or voluntary systems in vogue in Europe, viewed from the American standpoint and standards, fail utterly in giving efficient treatment. They are objectionable from almost every standpoint, and wholly disappointing.

An effort to introduce them into this country met with complete failure, and the idea has been relegated to the limbo of discarded theories, where it properly belongs.

Because of the crying need for some system of delivering adequate medical care and hospitalization at a cost which will not be burdensome, a horde of promoters has sprung up in this country, rather recently. For the purpose of making rich profits for themselves, they have offered to the people, through the agencies of so-called "Medical Service Companies," "Sickness Insurance Corporations," etc., a service advertised as adequate, efficient, and economical, based on the idea of selling the physician's services to the sick, with a large profit for the broker. Generally, they have failed utterly in meeting the promises made in their extravagant advertisements.

Many of them are fly-by-night concerns, which both deceive and defraud honest people who are making an honest effort under distressing conditions to insure means of discharging their obligations.

Considering the fact that only about 20 per cent of all moneys paid for sickness ever reaches the pockets of the medical profession, the doctors of California cannot be too highly commended for the action just taken by the California Medical Association in the development of a plan for reducing medical costs. This is the official organization of the medical profession in this state. It has developed and presented a plan by which people of moderate means may receive the best of medical and surgical treatment and hospitalization, when necessary, on an insurance principle that makes it comparatively easy for every person of moderate means or reasonable employment to command immediately, when necessary, the best that modern medical science can provide.

The plan proposed allows to the individual the free choice of any physician or surgeon who is an associate of his county medical society, and who is willing to treat people of moderate means.

The wide commendation, both in the news and editorial columns of the public press, together with the unqualified endorsement of so many of the leaders of the medical profession, throws a rainbow of promise, both for the people and the doctors, over what has been an unsatisfactory and unhappy situation.

Outspoken opposition from any but piratical promoters, whose profits are jeopardized, is yet to be heard; but in the profession which has for years been so progressive but yet cautiously conservative, there will be found an occasional individual who is in silent opposition for this, that, or the other fancied reason to any constructive activity. To obstruct, to delay, and

eventually to defeat, is the purpose of such; and their early removal from the field is a consummation to be desired.

Fortunately, the great preponderance of professional opinion, with farseeing wisdom, has been such that it has been possible for this great medical association to present a practical and popular plan. By furnishing, under all conditions, a prompt and adequate medical service, it puts both the public and the profession in an enviable position. The patient is not embarrassed by unpaid doctor bills, and the medical profession is no longer handicapped by inadequate returns for necessary service.

From the standpoint of a health official, such a plan means that a prompt, efficient, prepaid service will be opened to all such citizens; that minor physical defects will be discovered early and remedied promptly; that infectious diseases will be seen promptly by competent practitioners; that epidemics will cause fewer deaths; that the work of health departments and health officials will be less arduous and infinitely more satisfactory.

Viewed from the standpoint of the taxpayers, it means that the tremendous expense in the public schools, due to the loss of time from illness, will be greatly reduced; that the burden of care in public institutions for those who have become financially exhausted because of sickness, will disappear.

Few taxpayers yet realize what a tremendous financial burden is placed upon their shoulders for furnishing medical and surgical care and hospitalization to such citizens, to say nothing of the large number of people who are resorting to tax-supported hospitals for treatment, in spite of the fact that their incomes are more than ample to provide adequate care under the proposed plan.

It is asserted by competent accountants that in some of the tax-supported hospitals where all service is free, the cost of providing hospitalization runs as high as five dollars to ten dollars per day per patient. The situation has become so acute that one investigator states it is a question as to who most needs relief—the patient or the taxpayer.

Viewed from the standpoint of the citizen, it means cessation of worry over the problem of sickness or accident that may befall himself, his family, or his dependents. It should be the hope of all that there will be no unnecessary delay in putting the plan into operation.

California White House Conference Is Held.—The opening meeting of the California White House Conference on Child Health and Protection was held in San Francisco at the call of Hon. James Rolph, Jr., Governor of California, on November 11 and 12. The first session was a dinner meeting held at the Palace Hotel. Miss Lucy Stebbins, dean of women, University of California, Berkeley, presided. Addresses were made by Dr. Giles S. Porter, director of the State Department of Public Health; Mrs. Rhea C. Spivalo, director of the State Department of Social Welfare; Mr. Vierling Kersey, director of the State Department of Education; Dr. Robert E. Swain, acting president of Stanford University; Mr. Edward G. Rainey, State Superintendent of Banks, and Mr. Jefferson E. Peyster, supervisor, representing Mayor Angelo Rossi of San Francisco. President Robert G. Sproul of the University of California, chairman of the Conference, and Mr. Leland W. Cutler, chairman of the Governor's Advisory Committee, were unable to attend.

President Herbert Hoover left Stanford University for Washington that night and the following telegram was received from him:

I send cordial greetings to the California White House Conference on Child Health and Protection. It has been a chief interest of my administration to organize the White House Conference on this subject so near to the hearts of all our people and so vital to the future of our nation. The thousands of devoted men and women who have given their time and knowledge to this work deserve the grateful appreciation of the whole country. Many

state conferences have been held carrying to every part of the nation a fresh inspiration in this high service and the further extension of newly organized knowledge for the benefit of childhood. Your conference in California will be one of the most important of all these and I wish you Godspeed in your unselfish and invaluable labors.

Two hundred representative individuals attended the opening session and there was marked enthusiasm over the prospect of conducting a two-year program throughout the state in the interest of child health and protection.

On the following day, November 12, both morning and afternoon sessions were held in the Civic Auditorium. Dr. Herbert R. Stoltz, chairman of the Institute for Child Study at the University of California, presided in the absence of President Robert G. Sproul of the University of California. The morning session opened with an address, "The Value of State-Wide Organization" by Dr. R. E. Swain, acting president of Stanford University. Dr. Tully C. Knoles, president of the College of the Pacific at Stockton, talked upon the subject of "Community Responsibility." Dr. Giles S. Porter, director of the State Department of Public Health and chairman of Governor Rolph's personal representatives, discussed "The Health Workers' Field in the Conference." "What the Social Worker Can Contribute" was the subject of an address by Mrs. Rhea Crawford Splivalo, director of the State Department of Social Welfare, and Mr. Vierling Kersey, director of the State Department of Education, talked upon the subject "What the Educator Can Contribute." The plan of organization of the Conference was outlined by Mr. N. P. Neilson, Superintendent of Physical Education in the State Department of Education. At the end of the morning session, Dr. William P. Shepard, secretary of the Western Branch of the American Public Health Association, summarized the morning's discussion. Group meetings were held in the afternoon. The Governor's White House Conference Committee and the County Executive Committee members met in Polk Hall. Dr. Robert E. Swain presided at this session and Mr. N. P. Neilson led the discussion. Section meetings were held as follows:

Medical Service—Dr. William Palmer Lucas, chairman.

Public Health Service and Administration—Dr. John J. Sippy, chairman.

Education and Training—Dr. Edna W. Bailey, chairman.

Social Welfare—Mrs. T. E. Shucking, chairman.

At three o'clock the individuals in attendance assembled in a general meeting at which plans of work were presented by the section chairmen. Under the general state plan, the conference will be carried to the people in every community of the state. The organization, as developed by the State Executive Committee, calls for this accomplishment. District conferences will be held in Los Angeles, Fresno, Oakland, and Sacramento. A county conference will be held in each county of the state and one or more conferences will be held in each community of the state. The community conferences, in fact, constitute the key conferences. Local conditions influencing child welfare will be evaluated against the standards and criteria which were established in President Hoover's original White House Conference. It is desired that members of each community of the state shall be informed upon child welfare and that their interest in a forward-looking program shall be developed. It will require at least two years for the complete program to be worked out.

After the community conferences have been held, county conferences will be called for the purpose of gathering recommendations and reports of accomplishments in the various communities. After the county conferences, district conferences will be held for the purpose of gathering together and summarizing the results that may have been achieved in the various counties. Finally, another state conference will be held at which a new program of child health and protection for California will be developed. Following is an

outline of the four sections into which the conference is divided, together with the principal committees that will work under each section:

Section 1. Medical Service:

- Growth and Development
- Prenatal and Maternal Care
- Medical Care

Section 2. Public Health Service and Administration:

- Public Health Organization
- Communicable Disease Control
- Milk Production and Control

Section 3. Education and Training:

- The Family and Parent Education
- The Infant and Preschool Child
- The School Child
- Vocational Guidance
- Child Labor
- Recreation
- Physical Education
- Special Classes
- Youth Outside of Home and School

Section 4. Social Welfare:

- Community Organization for Social Welfare
- Physically Handicapped
- Mentally Handicapped
- Dependency and Neglect
- Delinquency and Probation
- Foster Homes and Adoption
- Institutional Relations
- Family Guidance and Coöperation

. . . Following are the names of the state section and committee chairmen:

Section I:

Medical Service, Dr. William Palmer Lucas

- A. Growth and Development, Dr. Herbert Stoltz
- B. Prenatal and Maternal Care, Dr. Adelaide Brown
- C. Medical Care, Dr. Henry Dietrich

Section II:

Public Health Service and Administration, Dr. John J. Sippy

- A. Public Health Organization, Dr. J. D. Dunshee
- B. Communicable Disease Control, Dr. Walter H. Brown
- C. Milk Production and Control, Dr. Sam H. Greene.

Section III:

Education and Training, Dr. Edna W. Bailey

- A. The Family and Parent Education, Mrs. W. J. Bingham
- B. The Infant and Preschool Child, Dr. Lovisa Wagoner
- C. The School Child, Dr. Anita Laton
- D-1 Vocational Guidance
- D-2 Child Labor
- E-1 Recreation, Mr. Charles Davis
- E-2 Physical Education, Mr. Charles Davis
- F. Special Classes, Mrs. B. C. Clark
- G. Youth Outside of Home and School, Miss Josephine Randall

Section IV:

Social Welfare, Mrs. T. E. Shucking

- A. Community Organization for Social Welfare, Mrs. Walter Van Dyke
- B-1 Physically Handicapped, Mrs. Leo Youngworth
- B-2 Mentally Handicapped, Miss Louise Lombard
- C-1 Dependency and Neglect, Miss Louise Drury
- C-2 Delinquency and Probation, Mrs. A. S. Musante
- D-1 Foster Homes and Adoptions, Mrs. Grace Y. Hudson
- D-2 Institutional Relations, Mrs. Harry Geballe
- D-3 Family Guidance and Coöperation, Mrs. C. E. Hunter

BOARD OF MEDICAL EXAMINERS OF THE STATE OF CALIFORNIA

By CHARLES B. PINKHAM, M. D.
Secretary-Treasurer

News Items

Reports relate that J. Lane Kendall, licensed chiropractor, was on November 18, 1932, sentenced to pay a fine of \$600 or serve two hundred days in the county jail, following his conviction of contributing to the delinquency of a minor, he electing to serve the county jail sentence.

The individual who called himself Dr. Alfred A. Hesse, former intern at the San Joaquin General Hospital, must have made his way to New York City, inasmuch as the Cadillac sedan which he was purchasing on installment payments from a Los Angeles firm was reported found in a New York garage. A warrant is pending against Hesse, charging him with violation of the Medical Practice Act.

According to report, Mario S. Llano was arrested in San Francisco, November 14, by Inspector Jarrett of the State Narcotic Division, who is said to have found in his possession a number of cans of marihuana. In addition, he was said to have found "many volumes of books, laboratory paraphernalia, test tubes, etc.," some of which assertedly belonged to the San Francisco Hospital. According to information, Llano was violating the Medical Practice Act, in addition to the charge of violating the State Narcotic Law.

Manuel Machado, convicted in Santa Barbara County in 1929 on a charge of violation of the Medical Practice Act, which conviction was sustained on appeal (99 Cal. App. 702) has been located in the United States Industrial Reformatory, Chillicothe, Ohio, where he is said to be incarcerated on a counterfeiting charge. Machado's chiropractic license was revoked January 17, 1930. (Previous entries, December, 1928; May, June, and September, 1929.)

E. Osmun, referred to in "News Items" of the December, 1931, issue, as assertedly victimizing physicians, from whom he collects a small fee under promise of making them examiners for various insurance companies, was reported recently sentenced in Los Angeles to twenty days in jail, following his plea of guilty to petty theft charges. It is said after he has served the twenty-day jail sentence in Los Angeles, he will be taken to San Diego to answer to a complaint filed November 30, 1932, based upon an allegation that Osmun had obtained \$3.99 from each of about fifteen physicians in and about San Diego on pretense that their names would appear in a publication called "National Insurance Examiner," which, so far as we have been able to ascertain, is nonexistent.

On December 5 the Appellate Court, First Division, affirmed the judgment of the Board of Medical Examiners, entered July 8, 1931, suspending the license of Christopher Howson for a period of one year, based upon aiding and abetting an unlicensed practitioner.

"Walking out of the courtroom of Justice L. A. Maynard today, after receiving a sentence on a charge of practicing medicine without a state license, L. C. Hornschu, fifty-three, of San Francisco was rearrested by Police Chief A. F. Herritt on a warrant sent here from Sonoma, charging a similar violation. . . . The court decreed (on the Napa charge) sentence of six months, execution of which was ordered suspended on condition that Hornschu cease his medical activities and not violate any other law. . . . Herritt turned the custody of Hornschu over to J. W. Davidson, Investigator of the State Board of Medical Examiners, who was to take him into Judge Small's court at Sonoma. Davidson has been gathering evidence against Hornschu, following complaints made to the medical board by persons who claim they were bilked" (Napa Register, December 1, 1932).

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